“She is eyeing the Outer Banks”: Referring Expressions and Conceptual Metaphors Used in Hurricane-Related News

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Tämän pro gradu-tutkielman tarkoituksena on selvittää, kuinka hurrikaanit hahmotetaan ja kuinka niistä keskustellaan englanninkielisissä uutisraporteissa. Tutkimuksen aineisto sisältää uutisraportteja neljästä eri lähteestä, jotka ovat sanomalehdet The New York Times ja The Independent, sekä internetuutispalvelut CNN ja BBC. Tutkittaviksi myrskyiksi valittiin Hurrikaani Irene, Hurrikaani Ike ja Hurrikaani Katrina.

Kokonaiskuvan hahmottamiseksi tutkittaviksi ilmiöiksi valittiin kaksi aihetta. Tutkielmassa tarkastellaan, kuinka hurrikaaneihin viitataan, ja millaisia käsitteellisiä metaforia niistä käytetään. Lähtökohtana tutkimukselle onkin kognitiivisen kielitieteen ajatus siitä, että metaforat eivät ole pelkästään kielellisiä ilmiöitä, vaan heijastavat myös ihmisten ajattelua. Voi myös sanoa, että erilaiset valinnat viittaustekniikoissa heijastavat ajattelua, ja yhdessä metaforien kanssa voivat paljastaa, kuinka hahmotamme asioita.

Tutkimuksessa käy ilmi, että hurrikaaneihin viitataan lukuisin eri keinoin. Yleisimmin viittaus tapahtui käyttämällä melko yleisiä substantiiveja. Kiinnostavimmat viittaustekniikat löytyivät kuitenkin, kun tutkittiin millaisin pronominein myrskyihin viitattiin. Hurrikaani Irenestä, sekä Hurrikaani Katrinasta molemmista käytettiin nimittäin feminiinistä pronominia *she*, jota yleisimmin käytetään ihmisistä. Analyysi paljasti myös viisi konseptuaalista metaforaa, joita käytettiin hurrikaaneista keskusteltaessa. Yleisimpiä metaforia olivat ne, joissa myrsky nähtiin elävänä olentona, kuten vihaisena ihmisenä tai eläimenä. Hurrikaaneja verrattiin erinäisten metaforisten ilmausten avulla myös ajoneuvoihin, sekä vihollisvoimaan.

Tutkielman tuloksista voi päätellä, että hurrikaanit hahmotetaan pääosin negatiivisesti. Lisäksi ne hahmottuvat meille useimmiten antamalla niille ihmismäisiä piirteitä. Personifikaatiota tukee myös se, miten niihin usein viitataan, eli käyttämällä miesten ja naisten nimiä, sekä feminiinisiä pronomineja. Ajatus siitä, että tarvitsemme useita metaforia hahmottaaksemme suhteellisen abstraktia kohdetta, kuten myrskyä, näkyy myös erilaisten konseptuaalisten metaforien määrässä (5 kpl), joita aineistosta löydettiin.

Asiasanat: käsitteellinen metafora, metafora, viittaus, kognitiivinen semantiikka

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1 Introduction

Every year, during June 1st and November 30th, news reports on upcoming and already striking hurricanes begin to emerge in the media. This is the time of the hurricane season in the Atlantic, during which numerous people get killed every year (National Hurricane Center 2014a). During the last ten years, the death toll has varied from 0 to as much as 2067 casualties a year (National Hurricane Center 2013a). Consider the following paragraphs taken from a CNN article covering news on an approaching hurricane:

> Fears were perhaps greatest in North Carolina and Virginia and on the slivers of islands that extend off those coastlines, which could start feeling Irene's punch by Friday evening.
>
> But this time, it's different. Not because Irene is so huge, or that she is eyeing the Outer Banks. (Along Atlantic Seaboard, people prepare for Irene's fury, the CNN)

Had the reader of this news article not paid special attention to the language, he/she might not have noticed that Hurricane Irene has attained human-like characteristics and is thus able to *punch* and *eye* something. What is more, the hurricane is referred to by using a woman's name, *Irene* and later the reference is made by using a third person pronoun *she*. These observations give rise to the following questions: Are these instances mere coincidences or frequently occurring phenomena? and How are hurricanes discussed in the news in general? The main aim of this thesis is to answer the aforementioned questions.

To achieve this, a data of 48 news articles covering up-to-date news on hurricanes has been compiled out of two newspapers and two online news services. The news reports cover three different hurricanes: Hurricane Irene, Hurricane Ike and Hurricane Katrina. In order to be able to conduct the research within reasonable limits, the number of linguistic features under examination has been restricted to the ones that appear in the example paragraphs above, that is, to referring expressions, such as *Hurricane Irene*, *hurricane*, *she* and *it* and conceptual metaphors, which are constructed of metaphorical expressions, such as *punch* and *eye*. The linguistic features under scrutiny will be analyzed from the point of view of cognitive linguistics.

The results of this study will hopefully shed some light on how rather abstract entities, such as storms or hurricanes are perceived. The specific research questions I will answer are:

1. How are the storms referred to?
2. What kinds of conceptual metaphors are used when discussing the storms?
3. Do the four sources differ from one another in the use of referring expressions and conceptual metaphors?

When it comes to Questions 1 and 2, I am also interested in finding out what types of expressions are the most frequent in the data, and which ones are used less often. Furthermore, I will examine whether the feminine pronoun used when making a reference to a storm as in the example on page 1 is a frequent phenomenon and whether it is used for the other two storms.

To the best of my knowledge, hurricane related news have not been studied in this manner, that is, focusing on the referring expressions and the conceptual metaphors used. However, studies on gendered pronouns (that is, masculine or feminine form used for animals or inanimate entities) and conceptual metaphors have been conducted and these will be revisited in Chapter 5. Since it appears that hurricane related news have not been studied in a similar way before, the results of this study may provide new information to the field of cognitive linguistics. What is more, because the topic of this study is indeed rather multifaceted, the results might well be of use in various different fields, such as the previously mentioned cognitive linguistics, or more precisely cognitive semantics, journalism and even feminist studies.

The thesis has been divided into ten chapters. Following this chapter, the Introduction, background relating to the hurricanes and their naming practices, as well as information on different media types involved will be introduced in Chapter 2. Chapters 3 and 4 provide an overview on the theoretical framework, followed by an introduction of the main material and the methods employed in this study in Chapter 6. Chapters 7 and 8 focus on the results and analysis of the referring expressions and the conceptual metaphors, respectively. Chapter 9 provides a discussion of the main results and a reflection of the study itself. Finally, conclusions are drawn in Chapter 10.

2 Background

In this Chapter, background information on hurricanes and the types of media comprising the primary data is provided. Section 2.1 briefly outlines the definition of a hurricane, introduces the three storms that are chosen as the subjects of the news reports studied and finally, discusses the history of the practices of naming the storms. Section 2.2 covers features of newspaper news and online news language.

2.1 Hurricanes and naming them

Before moving into introducing the hurricanes that are chosen as the topics of the news articles studied, perhaps the concept of *a hurricane* needs to be defined. According to the National Weather Service, a hurricane is the most intense type of *a tropical cyclone*, which is defined as 'a rotating, organized system of clouds and thunderstorms that originates over tropical or subtropical waters and has a closed low-level circulation' (National Weather Service 2013). Cyclones are divided into three subgroups; tropical depressions, tropical storms and hurricanes, the first one being the least destructive and the last one being the most destructive storm (ibid.). Hurricanes are further categorized with a method called *The Saffir-Simpson Hurricane Wind Scale* (National Hurricane Center 2013b). The storm is placed on a 1 to 5 scale according to the intensity of its sustained winds, 1 being the least destructive storm and 5 being the most catastrophic hurricane type (ibid.). This scale includes the force of the winds but also estimates the potential damage on property (ibid.).

As stated in Chapter 1, the three hurricanes that the news articles chosen for this study cover are Hurricane Katrina, Hurricane Ike and Hurricane Irene. According to the National Hurricane Center[1] (2014d) all three storms struck in the Atlantic; Hurricane Katrina at the end of August in 2005, Hurricane Ike at the beginning of September 2008 and Hurricane Irene at the end of August 2011. Hurricane Katrina was the most destructive of the three, reaching Category 5,

[1] Hereafter the NHC

while Hurricane Ike was a Category 4 and Hurricane Irene a Category 3 storm (ibid.).

Evidently, hurricanes are given both men's and women's names. However, this has not always been the case. In fact the history of naming the storms is rather interesting, to say the least. In the West Indies for several hundred years, they were named after the saint's day on which the storm stroke, such as *Hurricane Santa Ana* in 1825 (National Hurricane Center 2014c). Clement Wragge was the first Australian meteorologist who started using women's names (ibid.). In addition, he also named the storms after the political figures he disliked (Landsea 2013). From 1950 to 1952 the tropical cyclones occurring in the Atlantic were named after the phonetic alphabet, (Able, Baker, Charlie, et cetera), but in 1953 women's names started to be used (ibid.). However, in 1979, during the wave of political correctness, the list that alternates both men's and women's names was introduced and has been used ever since (ibid.).

Nowadays, the names for upcoming hurricanes in the Atlantic come from a list that is maintained by the World Meteorological Organization (National Hurricane Center 2014b). The list in which every other name is a male and every other name a female name, rotates every six years (ibid.). This means that storms named Hurricane Ike and Hurricane Irene may appear again and for instance the 2014 list will be used again in 2020 (ibid.). According to the NHC, a hurricane name is said to "retire" when it is especially destructive or costly (ibid.). This is what happened in the case of Hurricane Katrina, and thus this name will not be used again in the Atlantic (National Hurricane Center 2014c).

2.2 Features of newspaper and online news

The news articles collected from the two newspapers, *The New York Times* and *The Independent*, can be described as somewhat short pieces of news reporting consisting of events that have taken place since the newspaper's last edition. In other words, they are *news reports* (Semino 2009, 441). The news reports are typically further categorized according to the nature of the news into *hard news*, *soft news* and *editorials*. Hurricane related news reports belong to the category of hard

news, which includes disasters, accidents and crimes, to name a few (ibid.). Semino (2009, 443), gives a definition for the structure of hard news: the reports typically consist of four main elements that are the headline, the attribution (a short mention of the writer or writers names along with possible time and place), the lead (a summary of the story) and the main body of text.

Lewis (2003, 96) states that in the traditional news story format used in newspaper news, an event is turned into a narrative and the order in which events are presented is by decreasing salience. This is called *the inverted pyramid structure*, which enables the reader to get enough information to know the most important facts of the news even after the first paragraph (Aitchison 2007, 107-8). First-person narration is usually not used and that creates an impression of neutrality and factuality (Semino 2009, 446). Another typical feature of modern newspaper language is condensing information (Biber 2003, 171). This is probably due to the fact that in a newspaper, the space is always limited.

The first regular daily newspaper, *The Daily Courant*, dates back to 1702 (McArthur, 1992 s.v. *newspaper*), whereas *online news*, as Lewis (2003, 95) calls them, are a more recent invention. News reports in online services, such as The Cable News Network (hereafter the CNN) and The British Broadcasting Corporation (hereafter the BBC) are written for the audience accessing the articles solely online. Lewis (2003, 96) suggests that these types of news are so extensively different from the other types of news that they could even form a whole new genre. According to Lewis (ibid., p. 97) online news differ from newspaper news in that the content is layered: unlike newspaper news, online news have several levels of detail. This layering removes the basic level of the story along with weakening the boundaries between news stories (ibid.). Lewis (ibid.) states that a detail of one news item can for instance work as a summary outline of another. Furthermore, the layered nature of online news can be seen for instance in the use of hyperlinks embedded in the texts. An example of this is found in the BBC article discussing Hurricane Irene, where a mention of Hurricane Ike is made using the hyperlink on an italicized portion of the text: “On Grand Turk, *where Hurricane Ike caused devastation in September 2008*,

[…]". A news story on Ike can be accessed by simply clicking this hyperlink.

Semino (2009, 443- 4) argues that it is important to note that several people contribute to the news reports, not just the reporters. That is to say, editors and sub-editors revise the texts (Semino 2009, 443) and their views and the ideology of the paper affect the final product. In addition to ideology, the slant that the writers and editors have chosen for the story also affects it and this means that even though one could expect hard news to be objective and neutral, they in fact may not be (ibid., p. 444).

This chapter contained background information on hurricanes, which are in the focus of the news articles studied. In addition, information on the media types was provided. Next, I will introduce the theory behind the linguistic phenomena examined in this study, beginning with the theory on referring expressions and then moving into discussing the theory behind metaphor.

3 Referring expressions

In this chapter I introduce the concept of reference and the terminology that is used when discussing it. In addition, ways of referring and different types of referring expressions are discussed in Sections 3.2 and 3.3. Since one aim of my research is to find out whether and how the gendered pronoun is used in hurricane news reporting, Section 3.4 concentrates on the gendered pronoun.

3.1 Terminology and the concept of reference

The concept of *reference* is certainly not a new one. It has been defined and understood rather differently by different authors in different fields. In this study, however, the term is understood from the point of view of semantics, in which the term "has to do with the relationship which holds between an expression and what that expression stands for on particular occasions of its utterance" (Lyons 1977, 174). Radden and Dirven (2007, 87) define the concept of reference as follows: In order to the speaker and the hearer to understand each other in a discourse, the various

instances of things brought up during a conversation need to be shared by the participants. This is done by making the things the speaker has in mind accessible to the hearer by acts of *reference* (ibid.). Undoubtedly, this applies to news reporting as well; the author of an article needs to make the things he or she has in mind accessible to the reader. Radden and Dirven (2007, 88) state that *reference* is the communicative act in which the speaker directs the attention to a particular instance of a thing. The thing or the entity in the external world in which the attention is drawn to is known as *a referent* (A Dictionary of Linguistics and Phonetics, 2009, s.v. *referent* n.).

According to Yoshida (2011, xxxiii) *referring expressions* are a type of linguistic expressions that are used in the acts of reference. If the reference is successful, the referring expression will identify the referent in question for the hearer (Lyons 1977, 177). Kreidler (2002, 130) notes that *referring expressions* are used in utterances and linked to something outside language. He points out that that something does not necessarily need to be real or concrete (ibid.). These expressions are used for grounding or anchoring a certain referent in the current discourse situation (Radden and Dirven 2007, 88). Consider the following example:

(1) Uncle Bob visited Lake Michigan with his dog.

Uncle Bob, *Lake Michigan* and *his dog* are all different referring expressions. *Lake Michigan* always refers to the same referent, Lake Michigan. *Uncle Bob* and *his dog* can, however, have different referents in different utterances.

Radden and Dirven (2007, 89) point out that although the main function of referring expressions is usually seen as merely identifying a referent, it is only one aspect of them. They continue by stating that (as using metaphors) reference is a cognitive phenomenon (ibid.). This is also the point of view from which reference will be discussed in this thesis. The entities invoked by referring expressions can be described as conceptual in nature (ibid.). Consider example (2) which illustrates the conceptual nature of entities (taken from Radden and Dirven, 2007, 89):

(2) I have *no money*.

The expression *no money* is completely understandable even though the referent *no money* does not exist in the real world. This is due to the fact that referents are parts of larger knowledge structures, which are evoked by referring expressions in a discourse (ibid.) Radden and Dirven (2007, 89) describe these structures as "short-lived packages of knowledge" or mental spaces.

3.2 Ways of referring

As stated in the previous section, reference is the communicative act in which the speaker directs the attention to a particular referent in a communicative situation. Different ways of making a reference will be briefly discussed in this section.

In a discourse a topic is frequently introduced by using an indefinite referring expression and the following mentions of the topic are made with definite referring expressions (Kreidler 2002, 144). In other words, indefinite referring expressions often introduce new information, while definite expressions indicate given information (ibid.). Radden and Dirven (2007, 90) approach the subject from the point of view of cognitive linguistics and therefore, their definition is slightly different form Kreidler's: they state that in a discussion, the speaker has to open a mental space in the hearer's mind for the instances he or she is about to discuss. This can be done for example by using an indefinite article *a* in the referring expressions and thus use *indefinite reference* (ibid.). *Definite reference* is used when the speaker thinks the mental space is already accessible for an instance (ibid.). Example (3) illustrates this:

> (3) A man found a kitten and asked a zookeeper what he should do. The zookeeper suggested the man that he could adopt it. The kitten has now been with the man for ten years.

In example (3), the three participants, *a man*, *a kitten* and *a zookeeper* are introduced in the first sentence and a mental space is opened for the hearer by using indefinite articles. The definite articles are used in the following sentences, because the speaker can now assume that the hearer shares the same instances as he or she.

Anaphora and *cataphora* are ways of referring as well. The traditional view in linguistics is

that anaphoric reference is used to point back to an already introduced referent, to continue a pre-established reference in text (Schwarz-Friesel, 2007, 3). Consider the following example (slightly modified from Radden and Dirven's example, 2007, 98):

(4) Mary and Bill tried to lift the vase and place it onto the middle shelf.
(5) Unfortunately, *he*/*she*/*it*/*they* slipped and fell to the floor.

The italicized words in (5) are anaphoric referring expressions; they refer back to same referents that were introduced in (4). For instance *he* refers back to Bill, *it* refers back to vase and *they* refers back to Mary and Bill.

Radden and Dirven (ibid.) claim that because the anaphoric referent is already known, its second mention carries no new information. Furthermore, in the case where the anaphoric referring expression is a third person pronoun, they "keep track of a minimum of information about the referents". These kinds of pieces of information are number (*he* versus *they*), animacy (*he* versus *it*) and sex (*he* versus *she*) such as in example (5) (ibid.). Nonetheless, in some instances the information is indeed important. Consider the following example:

(6) My friend Lee looked very manly at the gym yesterday. *He*/*She* exercises as much as six times a week.

In the first sentence *Lee*'s sex is not revealed and since Lee can be both a male and a female name the hearer cannot know whether the speaker is talking about a woman or a man. In this sentence *manly* can be used either positively if Lee is a man, or even negatively if she is a woman, since manly attributes in a woman are often considered undesirable. It is the anaphoric reference that gives rather important extra information on the referent.

In *cataphoric reference*, the speaker refers forward to a referent which has not been introduced but will be immediately in the discourse that follows (Radden and Dirven 2007, 99). Consider the following example:

(7) -"Have you heard the joke about *the pope* and *the zookeeper*?" –"No" –"Well, *a pope* and *a zookeeper* were on a cruise…"

In example (7) the pope and the zookeeper are cataphorically referred to as definite referents before properly being introduced by using indefinite articles in the following sentence. This type of reference occurs more rarely and is characterized by its main function that is announcing a situation or a referent that the speaker is going to talk about (Radden and Dirven 2007, 99).

3.3 Types of referring expressions

One could assume that noun phrases, such as *a dog* and *a table* are probably the most common referring expressions, but there are two other types of expressions; *proper nouns* and *pronouns*. Christiansen (2011, 316) introduces yet another type, *possessive determiners*, such as *my*, *his* or *her*. The term *possessive determiner* is in fact another term for possessive pronouns. In this study, they will be included under the category of pronouns for the sake of clarity. *Proper nouns* are nouns that have unique reference, such as names, calendar items or geographical names (Leech and Svartvik 2002, 374). According to A Dictionary of Linguistics and Phonetics (Crystal 2009, s.v. *proper* adj.) another term for proper nouns is *proper name* and they are names of individual persons, places et cetera.

In the case of human nouns, which usually have unique reference, the genitive construction indicating possession that is usually preferred is the genitive with *s* and an apostrophe (Leech and Svartvik 2002, 62), as in *Bob's trousers*. This construction can be used when referring to an animal as well, but *of*-construction indicating possession is usually preferred for inanimate and abstract nouns, as in *the discovery of helium* (ibid., p. 63).

Yoshida (2011, xxiii) notes that pronouns in general are used to refer to already established referents. This means that more often than not, they are used anaphorically. This is the case with third person pronouns as well. According to Leech and Svartvik (2002, 57), they replace an earlier noun phrase. Generally, *he* can refer to a male person or an animal, *she* similarly to a female person or an animal, while *it* is used to refer to an inanimate thing or an animal. However,

the pronouns *he* and *she* can in fact refer to for instance inanimate entities as well. This use will be discussed in more detail in the following section.

3.4 The gendered pronoun

More often than not, male referents are referred to by using the masculine pronouns *he* and *him*, whereas female referents by using the feminine equivalents *she* and *her*. If the referent, such as *a book* or *a river*, does not have an assigned gender, it is referred to by neuter *it*. However, this is not always the case. Sometimes these conventions are violated by using masculine and feminine pronouns with neuter reference (Hernández 2011, 73), for instance referring to a dog by using either *she* or *he*. Hernández points out that these types of pronouns are called *gendered pronouns* (ibid.).

Halliday and Hasan (1990, 47) claim that animals are sometimes treated as persons and sometimes as things. However, perhaps the more accurate way of describing the use of gendered pronoun with animals might be *personification*. This applies to the inanimate referents as well. In addition animals, objects may be given animate characteristics as well. In the following subsections the use of gendered pronoun, as well as reasons for the use are discussed. First, however, the concept of animacy is introduced.

3.4.1 Animacy

Yamamoto (1999, 9) introduces *the General Animacy Scale*, a hierarchical scale which is based on a cognitive distinction between animate and inanimate. In this scale, some animals are higher than others, nearer to the animate than inanimate (ibid.). Humans are the most significant order (Wales 1996, 140). Some animals are considered almost inanimate, such as amebae, even though they are living organisms (Yamamoto 1999, 14). Yamamoto (1999, 9) points out that the scale is a product of anthropocentric human cognition. In other words, the way we use and categorize language is affected by our cognition.

There is a convention in linguistics of labeling animals into lower and higher ones depending on certain criteria (ibid.). Halliday and Hasan (1990, 47) state that that the lower orders of creation are referred to by using *it*, whereas the higher ones are referred to by using *it*, *he* or *she*. Among other variables, the labeling depends primarily on the speaker's relationship to the species (Halliday and Hasan 1990, 47); the closer the speaker feels to the animal, the higher it is ranked. Wales (1996, 143) states that some animals that clearly belong to the higher rank in western countries, such as dogs and cats, can in fact be regarded as pests in some countries.

3.4.2 The use of the gendered pronoun

Wales (1996, 136) argues that even for a native speaker, the choice of pronoun to be used is not by any means always automatic or logical one. In some cases, it is not chosen even on the basis of biological sex (ibid.). She (1996, 148) notes that overall in discourse, personification is male-oriented and *he* is the norm. Given the fact that where there is personification, there is likely to be gendered pronouns co-occurring with it (Wales 1996, 146), it would seem expectable that overall the masculine pronoun *he* would occur more often. Nonetheless, there are number of cases where the feminine pronoun *she* occurs more frequently.

Hernández (2011, 78) notes that there is a convention of using *she* in discussion when referring to ships, which are inanimate. Moreover, Wales (1996, 153) notes that other modes of transport, such as planes, cars and trains are often personified and thus gendered pronouns, mostly *she*, is used. The origins of vehicular-*she* were among the speech of sailors who used it in occupational, dialect usage (ibid). They regarded their ships with affection; they were the substitute of family and wife and often were given female names (ibid.). Later it became a convention to use vehicular-she among other occupations that are closely connected with vehicles as well (ibid.).

When it comes to animate entities and co-occurring use of gendered pronoun, the choice may seem rather effortless; one chooses either *she* or *he* according to the biological sex of the

referent. As mentioned before, it is not exceptional for pet owners and farmers to use gendered pronouns. Interestingly enough, even if the gender of the animal in high rank is not known, there is a tendency to use *he*, rather than *it* (Wales, 1996, 141).

Wales (1996, 145) states that natural objects, such as *rivers* and *seas* are hard to classify, or place into the animacy scale, since their movement suggests life but they certainly are inanimate. In English they are usually male, for example *Old Father Thames* (ibid.), and therefore *he* is used along with *it*. *Winds* are either male or female, but what is interesting, is that *storms* are typically female, and thus referred to as *she* (ibid.). Wales continues (1996, 149) by stating that one could expect winds to be personified as male because of their power and strength, which are typically seen as male attributes. *Breezes* can be considered female, because they are seen as gentle (ibid.). What is more, Wales sees a connection between the behavior of women and winds; they are both unpredictable and states that this might be the reason why they are typically personified as females (ibid.). What Wales (1996) does not mention or specify, is how the storms that have male names are referred to; are they referred to by using *he* or *it*, or even *she*? I will return to this issue in Chapter 7.

3.4.3 Motivations for the use of the gendered pronoun

As stated in Section 3.4, the use of the gendered pronoun may have to do with personification, but there are other motivations for using them as well. According to Hernández (2011, 76) the emotive aspect gives an explanation why with certain groups of referents, such as pets the gendered pronouns tend to be used more often than with other groups of referents.

In addition to pets, the emotive aspect seems to be present with vehicles as well. As mentioned above, it has to do with familiarity and affection one feels toward one's car or boat, but what is more, using the feminine pronoun with vehicles can be an indication of male control and dominance as well (Wales 1996, 156). In addition to using gendered pronouns for inanimate or animate entities, naming them may show dominance as well. Wales (1996,143), for instance

notes that the female name *Nessie* used when referring to the Loch Ness monster suggests familiarity and a wished for domestication of the wild.

Gendered pronouns are used in negative contexts as well. According to Wales (1996, 154) out of the two gendered pronouns, *she* is by far more frequent in news reports about tragic events, symbolizing negative emotions, such as misery and suffering. However, *he* can be used in association with negative emotions as well. Hernández (2011, 80-1) gives an example of a rake, which is described as a terrible dangerous thing. According to Hernández (ibid.), the speaker first describes it as an inanimate tool and then shifts to describe it as dangerous. Hernández (ibid.) argues that this shift in perspective is not personification:

> (8) They used to be – they call *it* a turnover, a arrish rake. And *it* was a terrible dangerous thing. *He* had spikes each end . . .

According to Hernández (2011, 79) this is a matter of marking the one referent which represents the central focus of a certain discourse segment. In example (8), the rake clearly is in the focus of the segment.

In addition to emotional aspect and marking a focus, other motivations for the use of gendered pronouns are a convention and its eye-catching properties. For instance, Hernández (2011, 78) notes that it has become a convention of using *she* in discussion when referring to ships. Wales (1996, 155) points out that *she* is found in newspapers and particularly prominent in headlines, used as an emotive eye-catching device. She (ibid.) continues that later, in the body of the article *she* may be used as a rhetorical marker used with *it*. This rhetorical marker expresses shifts of feeling (Wales 1996, 75) – *she* is used for expressing emotion as opposed to more neutral *it*.

To conclude, this chapter has focused on referring expressions and the concept of reference. A special attention was paid to the gendered pronoun, which is perhaps among the most interesting research topics of this study. The following chapter will concentrate on introducing the concept of metaphor and then focusing on the theory behind conceptual metaphor.

4 Metaphor

This chapter contains discussion on metaphors in general, and since the present study contributes to the field of cognitive linguistics, a detailed discussion on metaphor in cognitive linguistics, *conceptual metaphor* and the theory behind it. Along with aspects and bases for conceptual metaphors, the universality of them will be discussed in Section 4.4. To conclude, a brief discussion on metaphors used in news and metaphors used on non-human or inanimate entities will be provided in sections 4.5 and 4.6, respectively.

4.1 General observations on metaphors

Metaphor may well be the best known term of figurative language and the concept itself is definitely not a new one. As Gozzi (1999, 55) states, already Aristotle defined metaphor as being "a transference, naming one term in terms of another". This definition does still more or less apply, but it is certainly a rather broad one. Many definitions of the term are indeed broad: the term *metaphor* has often been used to describe any kind of analogy or similarity in the twentieth century (ibid.). McArthur 1992 (s.v. *metaphor*) defines it simply as "a figure of speech which concisely compares two things by saying that one is the other".

As many other topics in linguistics, metaphor too has multiple theories. The three types of traditional theories of metaphor are *substitution*[2], *comparison*[3] and *interaction*[4] *theories* (Nöth, 1985, 2)[5]. As stated above, this study follows the views of conceptual metaphor theory, which was proposed by Lakoff and Johnson during 1980's. (see Lakoff and Johnson 2003). The theory will be discussed in detail in section 4.4.

[2] The metaphorical expression is used instead of a literal expression that has the same meaning (Cruse and Croft 2004, 194)
[3] Metaphor is based on comparison and similarity between the literal and figurative meaning (Ungerer and Schmid 1996, 115)
[4] Metaphor is dependent on the interaction between a metaphorical expression and the context in which it is used (Ungerer and Schmid 1996, 116)
[5] For introduction to the theories see e.g. Ricoeur (1978) or Nöth (1985).

4.2 Terminology involved in metaphor discussion

Goatly (2007, 11) explains that metaphors can be defined as thinking of one thing (X) as it were another thing (Y). Montgomery et al. (2007, 123) state that (X) is known as the *tenor* and (Y) as the *vehicle*. Tenor is also called *topic* or *target* and vehicle is also known as *source* (e.g. Goatly 2007). In the well-known example sentence (e.g. Lakoff and Johnson 2003) *Love is a journey*, the more abstract *love* is *the target* and *journey* is *the source*. In order for the metaphor to function correctly, some common features must be shared by the target and the source. Aitchison (2007, 166) states that the element which is shared by the target and source is known as *the ground*. In the example sentence *Love is a journey*, the shared features are, among other things, that love and journey both include possible obstacles and have turns and crossroads.

Metaphors are sometimes classified by using the terms *live* and *dead* metaphors, which as a matter of fact, are metaphors themselves. According to Goatly (2007, 21) *live metaphors* are also called *original metaphors* and *dead metaphors* mean metaphorical expressions that have become an integral part of the lexicon and could even be called clichés. They have lost their effectiveness and may hardly be noticed in everyday speech. One commonly known example of a dead metaphor is *a leg of a table*. There are differing opinions on *dead metaphors*, for Black (1993, 25) for instance claims that *dead metaphors* are not metaphors, but expressions that no longer have "a pregnant metaphorical use". Similarly, McArthur 1992 (s.v. *metaphor*) states that not everyone recognizes the status of dead metaphors, but notes that metaphors have a tendency of having "a time of vigour" after which they may 'fade' and 'die'. Now that the traditional theories have been introduced and general observations on metaphors have been discussed, let us move onto discussing the view of metaphor in cognitive linguistics. However, first the said field needs to be introduced.

4.3 Cognitive linguistics

As it was mentioned in Chapter 4, this study contributes to the field of *cognitive linguistics*, which is a modern school of linguistic thought (Evans and Green 2006, 3) that focuses on language as an instrument for processing and organizing information in addition to conveying it (Geeraerts and Cuyckens 2007b, 3). In other words, cognitive linguistics is interested in studying the mental aspects of language, that is, how we perceive and conceptualize the world while experiencing it.

In the field of linguistics, it is agreed that cognitive linguistics is not a single theory of language, but rather a school or a movement (Evans and Green 2006, 3). According to Geeraerts and Cuyckens (2007b, 3-4) it is a flexible framework or a cluster of broadly compatible approaches that share fundamental characteristics and common principles similar enough to be seen as a single framework. Cruse and Croft (2004, 1) note that cognitive linguistics emerged in the 1970's and has been active since the 1980's. Cognitive linguistics has its roots in the emergence of cognitive science in the 1960's and 1970's, particularly on the study of human categorization (Evans and Green 2006, 3). The early years were dominated by a relatively small number of scholars (ibid.) that are also described as key figures of the field, such as George Lakoff, Ronald Langacker and Len Talmy (Geeraerts and Cuyckens 2007b ,7). Later linguists such as Mark Johnson, Gilles Fauconnier, Ray Gibbs, Zoltan Kövecses, René Dirven and Günter Radden have contributed to the field[6].

The cognitive linguistics comprises of two branches: *cognitive semantics* and *cognitive approaches to grammar* (Evans and Green 2006, 27). The present study contributes to *cognitive semantics*, which studies the relationship between language, human experience and embodied cognition (ibid., p. 50). *Cognitive approaches to grammar* study "the symbolic linguistic units" that the language is comprised of (ibid.). Cruse and Croft (2004, 1) note that in recent decades most of the research has focused on semantics, but studies on syntax and morphology are

[6] See e.g. Geeraerts and Cuyckens (2007a) for more central contributors

numerous as well.

Two important ideas behind cognitive linguistics, and the facts that differentiate the enterprise from other approaches, such as Chomskyan linguistics, are as follows: Firstly, language is seen as reflecting certain important and basic properties of the human mind (Evans and Green 2006, 5). Secondly, structures of language are seen as "reflections of general conceptual organization, categorization principles, processing mechanisms and experiential and environmental influences" as Geeraerts and Cuyckens (2007b, 3) put it. In other words, the structures cannot be studied as autonomous concepts (ibid.).

Geeraerts and Cuyckens (2007b, 5) introduce three fundamental characteristics of cognitive linguistics. *The primacy of semantics* means that "the basic function of language involves meaning". The meaning is primarily a linguistic phenomenon, because the primary function of language is categorization (ibid.) According to them (ibid.), the second characteristic is that *linguistic meaning is encyclopedic* in that that we use language as a system for the categorization of the world. Therefore, there is no need for a systemic or structural level of linguistic meaning different from the level where linguistic forms are associated with world knowledge (ibid.). This view comes close to Cruse and Croft's (2004, 1) hypothesis *language is not an autonomous cognitive faculty*. The hypothesis opposes the traditional view in generative grammar, in which language is an autonomous cognitive faculty that is separated from non-linguistic cognitive abilities (ibid.). The third fundamental characteristic of cognitive linguistics is *the perspectival nature of linguistic meaning*, which means that the world is not objectively mirrored in the language (ibid.). Instead, "the categorization function of the language imposes a structure on the world" (ibid.).

As stated at the beginning of this section, the field of cognitive linguistics is not uniform and this is perhaps why principles which are slightly differing, but overlapping and mostly including the same ideas are presented in the introductory works of cognitive linguistics[7].

[7] For introduction to the field of cognitive linguistics, see e.g. Cruse and Croft (2004)

Ungerer and Schmid (1996, xi) state that the said field is represented by three main approaches, which are *the experiential view*, *the prominence view* and *the attentional view*. The experiential view refers to the endeavor of taking a more empirical and practical approach, instead of postulating rules on the basis of mere introspection and theoretical considerations (ibid.). According to *the prominence view*, the selection of the clause subject and other parts, such as object and adverbials is determined by the prominence of the elements in a given situation (Ungerer and Schmid 1996, xii). In other words, the more prominent the element, the more visible it is. The visibility can mean for instance placing the important subject at the beginning of a sentence (ibid.). *The attentional view* simply means that people tend to reveal which parts of an event get their attention in the expressions they use (Ungerer and Schmid 1996, xiii). They (ibid.) give the following example: "The car crashed into the tree". In this example the crucial information in which our attention is directed to, *the crashing*, is expressed, even though there must have been events that lead to the crashing before the crash happened, for instance the car starting to swerve.

As already noted in this section, cognitive linguistics is primarily interested in investigating the relationship between language, the mind and socio-psychological experience (Evans 2007, vi). The more specific areas of interest are numerous and include topics such as prototypicality and categorization (e.g. Ungerer and Schmid 1996 and Lakoff 1987), metaphors and metaphoric mapping (e.g. Kövecses 2010, Lakoff and Johnson 2003), metonymy (see e.g. Evans and Green 2006 and Lakoff and Johnson 2003) and topics on cognitive grammar (e.g. Langacker 1987 or a more recent Radden and Dirven 2007). The present study contributes to the topic of metaphor, particularly conceptual metaphor, which will be discussed in the following section.

4.4 Conceptual metaphor

Grady (2007, 188) notes that if cognitive linguistics studies ways in which language features are reflected in other aspects of human cognition, then metaphors provide a clear illustration of this

relationship. This is also the view in *Conceptual Metaphor Theory* (CMT). CMT is also used as a framework in the present study. According to Evans and Green (2006, 286) CMT framework was first proposed by Lakoff and Johnson in their book *Metaphors we live by* in 1980. Grady (2007, 189) states that this was in fact the starting point of metaphor discussion in cognitive linguistics. There are conflicting views on this, for Jäkel (1999, 22) for instance argues that there were numerous contributors in the cognitive metaphor theory even before Lakoff and Johnson, for instance Immanuel Kant, Hans Blumenberg and Harald Weinrich.

The basic premise for the theory is that thought is fundamentally metaphorical in nature (Evans and Green 2006, 286). Therefore, metaphor is not a mere stylistic feature or linguistic device as the traditional view and McArthur's (1992, s.v. *metaphor*) definition suggests.

4.4.1 Aspects of conceptual metaphor

Goatly (2006, 25) defines *conceptual metaphor* as sets of metaphorical lexical items that are found in the lexicon of English, serving as *root analogies* or *metaphor themes* in the language. Conceptual metaphor consists of two conceptual domains. That is to say, any two "coherent organization[s] of experience" (Kövecses 2010, 4): We draw metaphorical expressions from *source domain* to understand the *target domain* (ibid.). Target is understood in terms of source domain with the help of *mappings*, that is, the common features or essential correspondences that the two domains share (ibid., p. 7). To use the previously mentioned example LOVE IS A JOURNEY[8], *love* is the target domain that is being understood with the help of correspondences with it and the source domain *journey*. Mapping is indeed another fundamental notion of conceptual metaphor (Grady 2007, 190) and one definition for metaphor is in fact that it simply is "conceptual mapping" (Lakoff 2008, 24). Grady (2007, 191) mentions that mapping elements from one domain to another involves the properties and objects that are characteristic of that domain (for instance sturdiness or flimsiness) but in addition to those, it involves the relations,

[8] Commonly written in small capitals.

scenarios, events and other aspects that characterize the domain. To illustrate the idea of mappings in the example sentence, an example taken from Kövecses (2010, 9) will be presented:

Source: JOURNEY		Target: LOVE
the travelers	→	the lovers
the vehicle	→	the love relationship itself
the journey	→	events in the relationship
the distance covered	→	the progress made
the obstacles encountered	→	the difficulties experienced
decisions about which way to go	→	choices about what to do
the destination of the journey	→	the goal(s) of the relationship

Figure 1: LOVE IS A JOURNEY

The above example consists of the systematic set of correspondences that constitute the LOVE IS A JOURNEY metaphor. One mapping is presented in one row, for instance *the travelers → the lovers*, meaning that lovers are understood as the travelers in the mentioned metaphor. The formula for conceptual metaphors is X IS Y (Goatly, 2006, 25) as in the previous example. In my study, I will rely on this formula and the mapping principles introduced by Kövecses (ibid.).

It must be noted that the words and other linguistic expressions form conceptual metaphors, and the conceptual metaphors, such as LOVE IS A JOURNEY do not necessarily occur as such in the discourse. The linguistic metaphorical expressions that actually occur are all the words and expressions that come from the domain of journey and that have to do with life (Kövecses 2010, 4), such as We are *at a crossroads*, We're *stuck*, We'll just have to *go our separate ways*, It's been a *long, bumpy road* (expressions taken from Lakoff and Johnson 2003, 45). Lakoff (2008, 25) states that metaphors such as LOVE IS A JOURNEY are complex metaphors composed of simpler conceptual metaphors such as PURPOSES ARE DESTINATIONS, A RELATIONSHIP IS A CONTAINER and INTIMACY IS CLOSENESS.

Another important notion of conceptual metaphor is the idea of *hiding* and *highlighting* (Evans and Green 2006, 303). Lakoff and Johnson (2003, 10) note that while a metaphorical concept allows us to focus on one aspect of a concept, it keeps us from focusing to the other

aspects that are not consistent with the metaphor in question. In other words, when a target is structured in terms of a certain source, this highlights some aspect of the target while simultaneously hiding some aspects (Evans and Green 2006, 303). An example metaphor taken from Evans and Green (2006, 304) AN ARGUMENT IS WAR highlights the confrontational aspects of argument, while hiding that argument may often involve and organized development of a topic: "He *won* the argument", "I couldn't *defend* that point" (ibid.). AN ARGUMENT IS JOURNEY, on the contrary, highlights the organizational and progressive aspects and hides the negative or adversarial aspects: "We'll proceed in step-by-step fashion", "We've covered a lot of ground" (ibid., examples taken from Evans and Green 2006, 304).

Evans and Green's (2006, 304) two example metaphors have the same target, ARGUMENT, whereas the sources WAR and JOURNEY are evidently different. This is in fact typical in English language; more often than not we need more than one source domain to comprehend one concept (Lakoff and Johnson 2003, 96). This is due to the fact that both target and source concepts have several aspects to them (ibid.) as seen in the example metaphors AN ARGUMENT IS WAR and AN ARGUMENT IS JOURNEY.

4.4.2 Bases for conceptual metaphor

Cognitive linguistic approach rejects the traditional assumption that metaphors are based on preexisting and objective similarities (Kövecses 2010, 88). According to Kövecses (ibid.) the basis we select the source domain for particular target depends on human factors that reflect nonobjective similarities between the target and the source. These similarities are called *experiential bases* for conceptual metaphors. The notion of experiential motivation is one of the central principles of CMT and yet another principle that distinguishes the enterprise from other approaches (Grady 2007, 192). The principle emphasizes our own experiences. Kövecses (2010, 77-88) introduces four of the nonobjective similarities.

Correlations in experience and *perceived structural similarity* are some of the common

similarities (Kövecses 2010, 77-88). Correlation accounts for conceptual metaphors such as MORE IS UP: when we pour more fluid to a container we see the level of the fluid rising (Kövecses 2010, 80). There is a correlation between the two events, putting more liquid and the level of fluid going up (ibid.). *Perceived structural similarity* is the basis for conceptual metaphors such as LIFE IS A GAMBLING GAME (Kövecses 2010, 82). Kövecses (ibid.) notes that people perceive some similarities between life and a gambling game, but the similarities are by no means objective or preexisting. People see similarities between the structure of LIFE domain and that of GAMBLING GAME domain, for instance *gamble* is similar with a corresponding *action in life* and *winning or losing* in a game is similar with *the consequence of the action* (ibid.). Interesting implication of the perceived structural similarity view is that according to it, some metaphors actually generate similarities, rather than are based on similarities (ibid.).

Kövecses (2010, 39) notes that some basic or ontological metaphors[9], such as THE MIND IS A CONTAINER may give an entity qualities it does not have – for instance human qualities to nonhuman entities. These basic metaphors help us perceive the similarities between conceptually distant domains, such as ideas and food in the metaphor IDEAS ARE FOOD (Kövecses 2010, 83-84).

Kövecses (2010, 84) introduces a case where the experiential basis of conceptual metaphor is provided by a situation in which *the source of the metaphor is the origin or the root of the target*. Examples of these kinds of metaphors are AFFECTION IS CLOSENESS and ARGUMENT IS WAR (Kövecses 2010, 85). These examples are understandable, because the sources represent properties that are important for the targets. Affection is closeness in that affection is often showed by physical closeness (Kövecses 2010, 84). Argument is war in that historically, the concept of argument has its origin in physical fight (Kövecses 2010, 85).

[9] More on ontological metaphors under section 4.6.

4.4.3 Universality of Conceptual metaphor

The conceptual system and conceptual metaphors are based on body and brain; abstract thought is based on correlations in bodily experience resulting neuronal connections in the brain (Kövecses 2005, 26). Examples of these kind of metaphors are ANGER IS HEAT in that one literally feels hot when he feels anger (ibid.) and the previously mentioned MORE IS UP or MORE IS HIGH in that one can see that the larger the number of things piled, the higher the pile (Goatly 2006, 31). If it is true that many of the conceptual metaphor themes have their basis in bodily experiences, one could argue that at least the most basic metaphors such as MORE IS UP are universal or similar as well. Grady (2007, 204) in fact argues that basic or primary metaphors are patterns that are likely to be found in any language. However, Goatly (2006, 31) states that cultural and social influences can be seen in some metaphor themes and Grady (ibid.) admits that there are numerous metaphors that appear in only some languages.

Linguists disagree on the degree to which universal and cultural factors contribute to the origin of a particular conceptual metaphor (Grady 2007, 204). An example of this kind of controversial conceptual metaphor is ANGER IS HEAT. Anger evokes certain physical changes in us. One feels his or her pulse rising, palms and other parts of the body sweating, and the body temperature increasing. Therefore, taken the fact that people are constructed in a fairly similar ways, one could assume the conceptual metaphor to be universal. However, some linguists claim that the humoral theory of emotions, according to which the body is constructed of bodily fluids, humours, has affected the development of the pattern and emergence of ANGER IS HEAT in Western languages as opposed to other languages Kövecses (2005, 89). More on studies conducted on this matter will be provided under section 5.2.

Kövecses (2005, 34) states that variation in metaphors occurs cross-culturally and within cultures. Within culture such things as social, ethnic, regional and stylistic factors have an effect on variation (Kövecses 2005, 89-97). The style dimension includes the communicative setting, subject matter, medium, audience, and other factors (ibid., p. 95). In addition to the previously

mentioned factors, other things can also affect the use of conceptual metaphors, for instance, the political views involved.

4.5 Metaphors in the news

Gozzi (1999, 61) points out that metaphors "can be found at work" in the news. For instance in American politics the discourse is largely guided by the following conceptual metaphors: POLITICS IS WAR, POLITICS IS BUSINESS, SOCIETY IS A FAMILY, SOCIETY IS A PERSON and THE PRECIDENTIAL ELECTION IS A RACE (Kövecses 2010, 68). Goatly (2006, 25) emphasizes the importance of ideology aspect of metaphor and according to him (2007, 35) many metaphor themes have implications that are ideological. That is to say, they are used by people exerting power in the fields of politics, for instance (ibid.). By exploring metaphor themes and conceptual metaphors, one can discover a great deal of the underlying assumptions of for example political speeches (Gozzi 1999, 60).

By choosing to use different types of metaphors, the authors of news reports may affect the way we think about and perceive certain topics, but there are a number of other reasons why metaphors are used in the news. Aitchison (2007, 174-7) points out that they are used for grabbing the reader's attention and to make boring news reports more interesting, but also for explanatory and euphemistic reasons. The euphemistic metaphors are used for instance in order not to offend anyone. An example of a euphemistic expression is for instance *he passed away* as opposed to *he died*.

4.6 Metaphors used on inanimate entities

Ontological metaphors help us understand non-physical experiences or abstract concepts as physical objects and that way facilitating the reference, categorizing, grouping and discussing about them (Lakoff and Johnson 2003, 25). Examples such as INFLATION IS ENTITY[10] enable us to

[10] Example taken from Lakoff and Johnson 2003, 26.

see structure where there in fact is none (Kövecses 2010, 38). Both Kövecses (2010, 39) and Lakoff and Johnson (2003, 33) consider *personification*[11], that is, ascribing human qualities and characteristics to inanimate entities, such as time, death, natural forces and objects (Kövecses 2010, 56), as a form of ontological metaphor. In addition to qualities and characteristics, nonhuman entities are understood in terms of human motivations and activities (Lakoff and Johnson 2003, 33). Lakoff and Johnson (2003, 34) point out that personification can be seen as a general category that covers different types of metaphors differing on the aspects of a person. For instance inflation can be seen as an enemy: *Our biggest enemy right now is inflation* or as a woman giving birth: *Inflation has given birth to a money-minded generation* (ibid., p. 33).

Charteris-Black (2004b, 41) notes that personification is a persuasive way to affect the way we think, because it evokes attitudes and feelings. The ideological basis behind using personification is either to arouse empathy towards something or in order to arouse opposition towards something. This is again, done by associating the topic in question with positive or negative qualities and characteristics of humans (ibid.).

Inanimate entities and objects are not only personified. Montgomery et al. (2007, 124) introduce *animistic metaphors* that are used in a similar way, but the attributes that are ascribed to inanimate things are not necessarily human, but characteristics of animals or living creatures.

In this chapter, I have introduced the traditional and a rather broad way of defining the term metaphor, as well as mentioned the traditional theories behind it. In addition, the theoretical framework of this study, cognitive linguistics has been outlined. The last part of the chapter focused on conceptual metaphor, which is one of the main interests of the present research along with referring expressions. The following chapter concentrates on previous studies conducted in these matters.

[11] Montgomery et al. (2007, 124) give two additional terms for the same concept; *a humanizing metaphor* or *an anthropomorphic metaphor*.

5 Previous Studies

In the previous chapters, I have discussed the theory behind referring expressions and conceptual metaphor. In this chapter, I will summarize some previous studies on gendered pronoun and conceptual metaphor. Studies on referring expressions in general that would have been comparable with the present study could not be found. In Section 5.1 two studies on gendered pronoun will be introduced, while section 5.2 is focused on studies on conceptual metaphors, including accounts on the universality of conceptual metaphors and the use of them in media discussion.

5.1 Studies on the gendered pronoun

Hernández (2011) conducted a study on personal pronouns in 20th century spoken British English. In her study, she examined variation in gender by answering the following research questions: are gendered pronouns frequent or rare phenomenon and what determines the variation between gendered form (*she*, *he)* and *it*? (Hernández 2011, 73). The study was conducted by using the Freiburg Corpus of English Dialects, hereafter FRED (Hernández 2011, 53).

The main results of the study were as follows: The gendered pronoun seems to be a relatively frequent phenomenon, but still when compared to earlier accounts, there is a significant reduction in frequency (Hernández 2011, 93). As Wales (1996, 147) notes in Subsection 3.4.2, generally in discussion the male personification seems to predominate and *he* is the norm. Likewise, the FRED corpus results showed a general predominance of masculine forms as well (Hernández 2011, 93). However, although gendered *she* and *her* were less frequent than the masculine counterparts in the data, gendered reference was by no means restricted to masculine forms (Hernández 2011, 82). Hernández (2011, 83) adds that the referent range in feminine gender pronoun instances is wider than one might expect, albeit more restricted than for masculine forms. Both masculine and feminine pronouns were used to refer to non-human animate and inanimate objects. What is more, the results showed that gendered forms can indeed

be used to show the speaker's involvement or attachment to the referent (Hernández 2011, 83) as noted in subsection 3.4.3. For instance, the gender use with vessels seems to be used by male speakers that have a marine background (ibid.).

Siemund (2008) studied the use of animate pronouns (*he*/*she*) for inanimate objects in regional varieties of English. Varieties, such as Newfoundland English, Tasmania and other parts of the Australia and informal spoken American English were studied. The main claim he makes, is that pronominal gender in English is dependent on the degree of individuation of the entity that is being referred to (Siemund 2008, 3). For instance, proper nouns refer to entities that usually have a high degree of individuation (ibid.). As a contrast, the denotations of mass nouns may not be individuated at all (ibid., p. 4).

Furthermore, Siemund (2008, 244) notes that the common feature that emerges from the analyses of the regional data of Southwest England, Newfoundland and Tasmania is that in these dialects the animate pronouns *he* and *she* tend to be used with reference to countable and concrete entities. The neuter pronoun *it* is used for non-individuated matter and abstract entities, such as liquids, substances and materials (ibid.).What needs to be noted, however, is that the study on regional varieties probably does not give same results than one conducted on standard varieties.

5.2 Studies on conceptual metaphors

The universality of conceptual metaphors has been studied by multiple linguists, such as Kövecses (1986) and Yu (1998). Kövecses (1986) presents a case study on the concept of anger, in which he concludes that the linguistic expressions that indicate anger in American English are not random, but have a coherent conceptual organization underlying them (ibid., p. 12; 36). This can be seen in the system of metaphorical expressions, such as *he is a hothead* and *it was a heated argument*, which have their bases in the folk theory of physiological effects of anger (ibid., p. 12). According to the theory, the effects include increased body heat, increased internal pressure and agitation, to name a few (ibid.). The increased body heat and internal pressure are

present in the conceptual metaphor ANGRY PERSON IS A PRESSURIZED CONTAINER (Kövecses 2005, 39) which, according to Kövecses (ibid.) is also used in many other non-related languages, such as Hungarian and Japanese.

Yu (1998) presents his earlier study conducted in 1995 on anger metaphors in Chinese and English where he seems to agree somewhat with Kövecses's statement, by concluding that the two languages in fact have the same central conceptual metaphor THE ANGER IS HEAT (Yu 1998, 59). Nonetheless, some differences in the mappings occur, for English seems to prefer *fire* and *fluid*-related metaphors, while Chinese prefers *fire* and *gas* metaphors (ibid). However, they both describe anger by referring to its related physiological effects (ibid.), which suggests that at least this conceptual metaphor has its base on bodily experience and could thus be universal, or at least near-universal. To conclude, Kövecses (2005, 34) notes that there are indeed many conceptual metaphors that are universal, but there is considerable variation both within cultures and cross-culturally.

Aitchison (2003) introduces her study on the vocabulary used when reporting the 9/11 plane crash. The data used are from various sources, such as from newspapers and the Internet (ibid., p. 193).The results were as follows: A large number of different nouns relating to topics such as shock, horror, death and violence were found (ibid., p. 195). Examples of such nouns are *destruction*, *apocalypse*, *Armageddon*, *assault*, *attack*, *calamity*, *catastrophe*, *devastation*, *disaster*, *onslaught*, *violence* and *war*. As can be seen, many of these nouns are metaphorical expressions. Aitchison (ibid., p. 200) concludes that figurative language was still relatively rare and the language used composed mainly of every day words. However, as might be expected, a large number of lexical items relating to disaster and tragedy were found (ibid.). In Aitchison (2007, 112) she revisits the study and states that "the more dramatic the story, the fewer literary devices are needed to gild it" and that "there is no need to dramatize these kind of disasters, since they are already dramatic in themselves".

Nerlich (2011) conducted a study on media discourse dealing with disease management

relating to foot and mouth disease and avian influenza (ibid., p. 115). The data used was from the United Kingdom media coverage. She (2011, 132) found three prominent metaphor themes that re-occurred and structured the media coverage on the two diseases. Firstly, *journey* or *invasion metaphor* was found: the virus seemed to travel towards a goal. *House metaphor* theme was one in which the United Kingdom was seen as a house and the virus as an intruder that knocked the door and approached the gate (ibid., p. 130). The third metaphor theme was *metaphor of war* (ibid., p. 132). This theme was more prominent in situations where the source of the virus and the trajectory before arriving in the country were unknown.

As can be seen, Aitchison's (2003) and Nerlich's (2011) studies are both on media discourse, but involve entirely different subjects. Common to them is nonetheless the fact that the incidents reported in the media were seen as harmful and certainly not wished-for events. In addition, the common conceptual metaphor used seemed to be *war*. Interestingly enough, the *war* metaphor seems to be prominent in other contexts as well. For instance in her corpus analysis of newspapers and magazines, Koller (2004, 64) argues that *metaphors of war*, *sports* and *games* are frequent in media discourse on marketing and sales as well.

This chapter included summaries and the main results of some previous studies conducted on the subjects of this study. The fact that no accounts similar to the present study were found, makes the following analysis perhaps more interesting. However, before presenting the results and analysis of this study, let us first discuss the material and methods used.

6 Material and Methods

In this chapter, the materials and methods used in the study will be introduced. Section 6.1 contains a discussion on the primary data and a brief introduction of the four sources from which the news articles are collected in Subsections 6.1.1 and 6.1.2. The methods employed will be discussed in Section 6.2.

6.1 Material studied

The primary data of the present study consists of electronic data, altogether 48 news articles collected from British and American websites. The four sources used are *The New York Times*, *The Independent*, the CNN and the BBC. 12 articles were chosen out of each source, the final number of articles being 48. The number of articles was seen as large enough for the analysis, but not too large, since most of the analysis was done manually. The 48 articles amounted to c. 43 300 words of running text. Table 1 includes the number of words in each source.

Table 1: Word counts according to sources

Source	Number of articles	Word count
The New York Times	12	12987
The Independent	12	9737
the CNN	12	14291
the BBC	12	6277
Total	48	43292

Table 1 shows that the amount of words varied in the four sources and the British sources clearly had smaller amount of words than the American sources. However, this did not have much significance, since most of the analysis was qualitative or concentrating on percentages rather than raw numbers.

The articles in the two newspapers, *The New York Times* and *The Independent* were accessed by using the search engines on their websites. The two newspapers were chosen partly because they are popular and their circulation is relatively large. Furthermore, the articles published in the actual paper versions of the two newspapers could be easily accessed online. The CNN and BBC news articles were collected from the websites of the two companies as well. The CNN and the BBC are two public service broadcasters that as the two newspapers, post articles

that anyone can access.

It must be noted that all advertisements were excluded from the analysis, since they do not deal with the topic of my research. All the four sources were chosen on the basis that they each publish relatively large amounts of hurricane related news articles and thus enough data for the analysis could be collected. The four sources will be introduced in a more detail in subsections 6.1.1 and 6.1.2.

By using both American and British sources I was able to see whether they have different ways of describing the three hurricanes. The same reason applies to the decision to use both the newspapers and the online news sources, the CNN and the BBC in my analysis. The news articles were chosen so that they each had roughly the same subject, that is, they were written either during the storm or shortly after it and most importantly, were about the storm in question.

I decided to analyze news articles covering three different storms, Hurricane Irene, Hurricane Ike and Hurricane Katrina. The storms were chosen on the basis of their properties: Hurricane Irene and Ike were relatively destructive storms, but Hurricane Katrina was the most destructive and thus it was considered interesting to see whether this had an effect on the language used. Furthermore, Irene and Katrina are female names, whereas Ike is a male name and therefore Ike was chosen for comparison. By analysing the articles on both the female and male named storms I am able to see whether the name of the storm actually has an effect on the use of the gendered pronoun. In other words, I will be able to see whether feminine pronouns are used when referring to Irene and Katrina and whether masculine pronouns are used when referring to Ike.

6.1.1 Newspapers studied

As mentioned in Section 6.1, the two newspapers chosen for the analysis are *The New York Times* (American) and *The Independent* (British). Biber (2003, 172) states that *The Independent* is a "highbrow" broadsheet newspaper, while Semino (2009, 439) classifies it as a "quality" or an

"elite" newspaper and points out that the distinction between the elite newspapers and the more popular type is especially relevant in the United Kingdom. One could argue that *The New York Times* belongs to the category of quality newspapers as well since it has won over 110 Pulitzer prizes (The New York Times 2014b). I chose to analyse only the so-called quality newspapers simply because it was assumed that they would have coverage on natural disasters as opposed to for instance tabloids, which cover softer news.

The first issue of *The New York Times* was published in 1851 (The New York Times 2014a). *The Independent* has not been published as long and was founded in 1986 (McArthur 1992 s.v. *newspaper*).

6.1.2 Online news studied

As mentioned in Section 6.1, the CNN and the BBC publish news articles in their websites. In addition, also video and audio material is provided. However, in my analysis only the text data was used and other material excluded. Perhaps in a wider study the multimodal material could be taken into account as well, but for the present study it was not seen as necessary.

According to McArthur (1992, s.v. *cable news network*) the American TV news service the CNN was founded in 1980, whereas the BBC was founded already in 1922 (McArthur 1992, s.v. *BBC English*). In McArthur's (1992, s.v. *BBC*) opinion, the BBC is probably the best-known broadcasting organization in the world. In the present study, only the news articles provided at the BBC News Online Service were used, and not the radio or television services, of which the organization is probably best known. The said BBC News Online service was launched in 1997 (Allan 2006, 34).

6.2 Methods employed

The early phase of my research consisted of gathering the primary data. First the articles on each storm were searched by using the search string *Hurricane x* on each of the Internet pages, *x*

indicating the name of the hurricane. All sources but *The New York Times* website had the option of advanced search in which the search could be narrowed down according to relevance and the publishing date. As stated in Section 6.1, twelve news articles were selected on each source. The selection was made by skimming through the article to see whether the hurricane in question was discussed in it, that is to say whether they were relevant for my research or not. In addition, the 48 articles were copied and pasted into Microsoft Word files in order to get the word counts and to avoid typos in the examples used in the analysis.

The referring expressions were gathered manually. The reason why I chose to do it manually was that in that way I was able to familiarize myself with the data for the following conceptual metaphor gathering. I am aware that gathering and analysing the data manually might have increased the possibility of mistakes and that the referring expressions could have been gathered with the help of a word-processing program, but since the amount of articles was not extremely large, the method chosen was considered appropriate.

The next phase of the referring expression analysis was to organize the gathered expressions into lists according to the source, the storm in question and the article so that altogether 48 lists were compiled. The actual numbers were included in the Appendix, but only the percentages were analysed and discussed because of the fact that the word counts, and therefore the number of referring expressions, varied considerably. The figures appearing in the analysis were made using Microsoft Excel.

The method for analysing the conceptual metaphors found in the data was mostly manual as well. As with the referring expressions analysis, the first stage in the analysis of conceptual metaphors included a close reading and identifying the candidate metaphorical expressions, such as *Hurricane Irene is pummelling the US east coast*. Again, the expressions were gathered and placed in Microsoft Word files. Separate lists of metaphorical expressions were made of each news article. As the analysis progressed, patterns and expressions clearly belonging to the same conceptual metaphor began to emerge and the expressions were categorized under certain

conceptual metaphors. The example expression for instance was placed under THE STORM IS AN ANGRY PERSON metaphor and more precisely, to *the actions of an angry person*. The instances were also coded so that the metaphorical expressions included the name of the hurricane, the source and the article in question.

The metaphorical expressions were then analysed and *the Oxford English Dictionary* (hereafter *OED*) was used in determining the senses of the words used in the expressions. In addition, the instances found were calculated so that an overall picture of the frequencies of the metaphorical expressions could be formed. The conceptual metaphors found were the analysed and discussed with the help of examples taken from the data.

Finally, a few notions of typographical nature are in place. There are a number of examples presented in Chapters 7 and 8. In them, the names of the newspapers and online news sources have been abbreviated as follows: *The New York Times*: NY, *The Independent*: ID, the Cable News Network: CNN and the British Broadcasting Company: BBC. Furthermore, because some sources had multiple articles published on the same exact date and since the news articles were referred to only with the source and a date, for instance: *(ID, 9.9.2008.)*, a further labelling in the examples was needed. The news articles are distinguished by using a small letter a, b, c, et cetera. added to the reference. For the sake of clarity, these letters appear in the Bibliography as well. Next, I will proceed with the results and analysis of the referring expressions in Chapter 7, followed by the results and analysis of the conceptual metaphors in Chapter 8.

7 Results and analysis of the referring expressions

In this chapter I will discuss the different ways in which the three storms are referred to in the news articles. The frequencies will be introduced in the form of a table and a figure. I will also look for possible differences in the ways of referring between the American and British sources on the one hand, and between online and newspaper news on the other hand. At the end of the section, a discussion of gendered pronoun in the data will be provided.

The referents in question are Hurricane Irene, Hurricane Ike and Hurricane Katrina. As was stated in Section 3.3, there are three kinds of referring expressions; noun phrases, proper nouns and pronouns. The range on different types of expressions was relatively wide in the data and indeed, Hurricane Irene was referred to in altogether 13 different ways. In other words, 13 different referring expressions were used. Some expressions were used quite frequently, whereas others occurred once or twice.

As might be expected, the most common noun phrases that were used are *storm* and *hurricane*. Some other nouns, such as *monster* or *presence* that occurred more rarely are discussed under Subsection 7.4. Along with the expressions such as *Irene*, *Ike* and *Katrina*, proper nouns are used in the referring expressions *Hurricane Irene*, *Hurricane Ike* and *Hurricane Katrina*. Instances of the masculine pronoun *he* were not found, but some occurrences of the feminine pronoun *she* were. The neutral pronoun *it* was the most numerous of the three. There were altogether 1060 individual referring expressions found in the data. Next, I will move onto discussing the frequencies of the expressions.

7.1 Frequencies of the referring expressions

As stated in the previous section, numerous different types of referring expressions were used and altogether 1060 instances were found. Of these, *nouns* comprised 42.5 per cent of all instances. The second most occurrences had *proper nouns* (that is, expressions such as *Hurricane Ike* and *Ike*) with 33.8 per cent. *Pronouns* were used in 22.6 per cent of the cases, whereas *determiners* or pointer words used alone without head noun had only 1.1 per cent of the occurrences.

Different types of referring expressions are presented in Table 2. Occurrences have been converted to percentages, but the actual numbers are included in the Appendix 1. The first column consists of the expressions that occurred in the articles and the next four present the percentages. A minus sign on the table indicates that there were no instances of those expressions found. The percentages have been rounded up so that the table would be easier to analyze. The

table has been divided into three parts, each part consisting of the referring expressions that were used for a specific hurricane. Other nouns will be discussed under Subsection 7.4.

Table 2: Percentages of the referring expressions

Word	The New York T.	The Independent	CNN	BBC	Average of all sources
Hurricane Irene	10.3	7.6	5.6	10	8.4
Irene	1.9	36.7	33.9	24.7	24.3
storm	36.5	22.8	24.2	25.8	27.3
hurricane	23.4	12.7	4.8	14.6	13.9
it/its/itself	22.4	16.5	25	22.5	21.6
she/her	-	1.3	1.6	-	0.7
this	1.9	1.3	3.2	1.1	1.9
other nouns	3.7	1.3	1.6	-	1.4
total	100.1	100.2	99.9	98.7	

Word	The New York T.	The Independent	CNN	BBC	Average of all sources
Hurricane Ike	22.9	7.4	9.3	7.6	11.8
Ike	2.4	38.3	40.2	31.8	28.2
storm	37.3	14.8	22.7	30.3	26.3
hurricane	8.4	2.5	8.2	7.6	6.7
it/its/itself	27.7	33.3	13.4	16.7	22.8
he/his	-	-	-	-	-
this	-	1.2	1.0	-	0.6
other nouns	1.2	2.5	5.2	3.0	2.2
total	100	100	100	100	

Word	The New York T.	The Independent	CNN	BBC	Average of all sources
Hurricane Katrina	18.4	5.8	17.0	7.0	12.05
Katrina	-	25.6	22.7	22.8	17.8
storm	32.0	23.3	30.7	22.8	27.2
hurricane	13.6	15.1	11.4	21.1	15.3
it/its/itself	30.1	22.1	13.6	19.3	21.3
she/her	-	1.2	-	1.8	0.75
this	-	1.2	1.1	-	0.6
other nouns	5.8	5.8	3.4	5.3	5.1
total	99.9	100.1	99.9	100.1	

What emerges at a first glance from Table 2, is that overall, *storm* is the most frequent referring expression with 27.3, 26.3 and 27.2 per cent of all occurrences. In other words, there seems to be a preference to use a general term when referring to the hurricanes and indeed, *storm* is perhaps the most general term that can be used for the three hurricanes. Interestingly enough, it is always used more often than the less general expression *hurricane*, which occurs frequently as well.

Proper nouns without the word *hurricane* modifying them, that is, proper nouns *Irene*, *Ike* and *Katrina* are the second most frequently occurring expressions. A reason for the high frequency might be the fact that this type of expression is relatively short and certainly less cumbersome than for instance *Hurricane Irene*. In some news articles, such as in the CNN's article "NOLA mayor: If Ike comes, weary residents unlikely to flee", proper nouns were used extremely often, 18 cases out of 28. This high amount of proper nouns used in one article is interesting when it is compared to some of the *The New York Times* articles where it did not occur even once. Almost as frequent as the proper nouns were the third person pronouns *it*, *its* and *itself*. In this case the high frequency might be explained by the convenience – these anaphoric items are short and in journalistic style it is common to condense information, as Biber (2003, 171) notes.

Hurricane seems to be the next most frequently used referring expression with 13.9, 6.7 and 15.3 per cent of the instances. The fact that it was not more frequent than the proper noun reference, for instance *Katrina*, was rather surprising, since one could expect *hurricane* to be used of something that is seen as an object, and perhaps a proper noun to be used of an active agent and it seems that at least in this respect, the storms are perceived as rather active entities or even living ones as we shall see in Chapter 8.

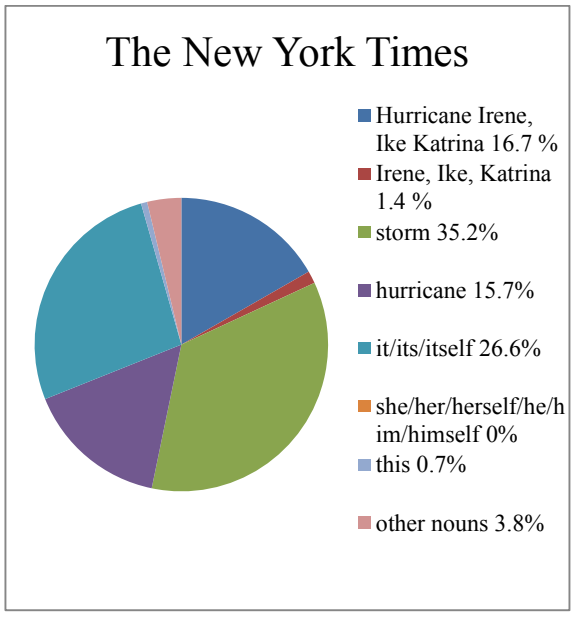
Instances of referring expressions where name is accompanied by a noun are *Hurricane Irene*, *Hurricane Ike* and *Hurricane Katrina*. They occurred relatively rarely in the data. *Hurricane Irene* accounted for on average 8.4 per cent of the instances, whereas *Hurricane Ike* 11.8 and *Hurricane Katrina* 12.05. This might be surprising in that respect that they are, in fact,

the official names for the storms that the NHC uses. However, taken the fact that the data comprised of news articles, their low frequency in not that surprising since the expression is rather long.

The determiner *this* had some occurrences but was not by any means frequent. The gendered pronouns *she*, *her* and *herself* or *he*, *him* and *himself* were not frequent either, but nevertheless perhaps among the most interesting referring expressions on Table 2. The said table shows that some instances for both *Irene* and *Katrina* were found, but none for *Ike*. A more detailed discussion of the gendered pronouns will be provided under section 7.5.

7.2 Differences and similarities between the four sources

In this section the focus of interest is in the possible differences and similarities between the four sources. Therefore, Figure 2 has been formed in order to see the differences and similarities more clearly. Each part of the figure consists of the percentages in one source and has a heading that indicates the name of the source. Next to each part of the figure, the percentages are provided (See Appendix 2A and B for raw numbers and the percentages in a tabular form). Next, consider Figure 2:



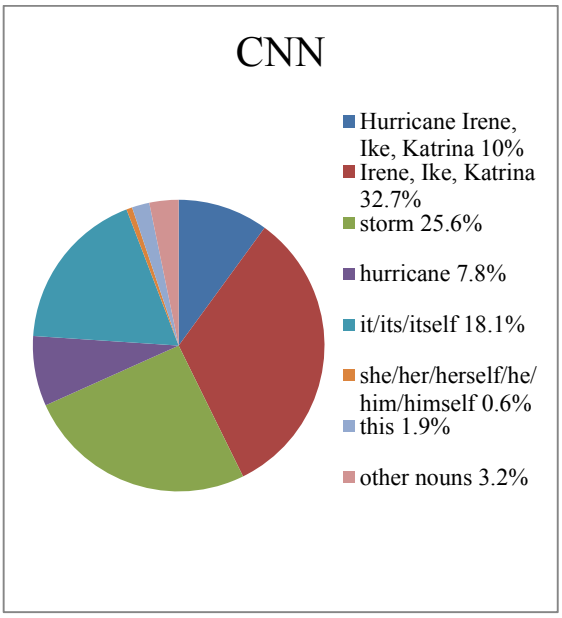


Figure 2: (Contd.)

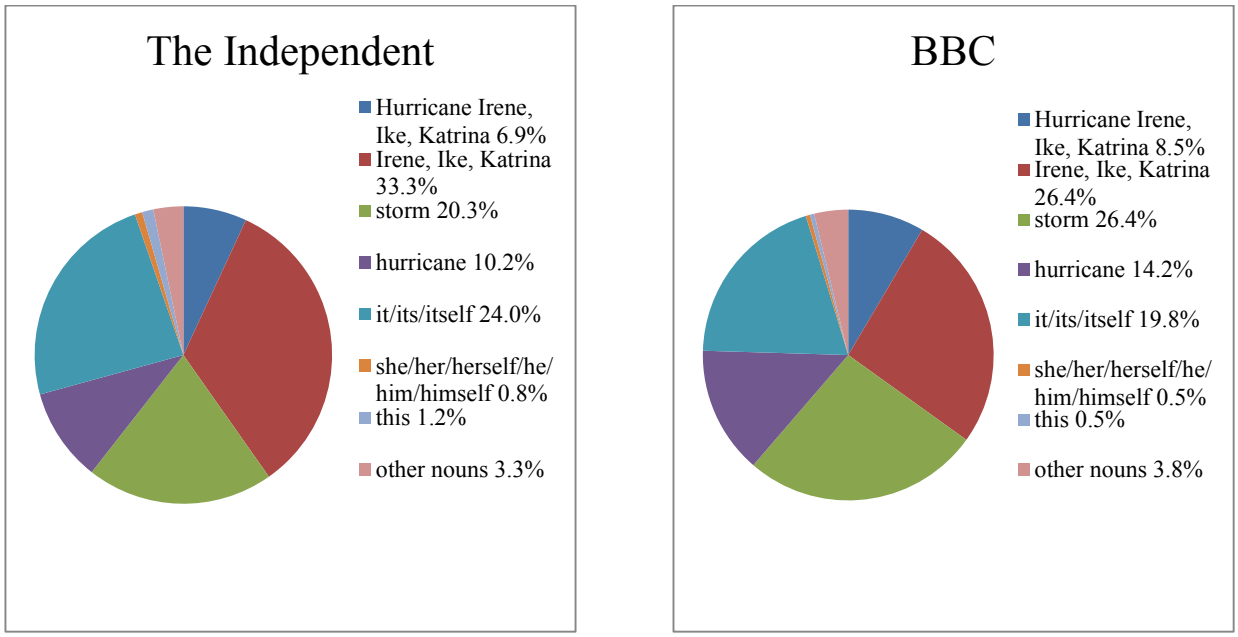


Figure 2: Percentages of the referring expressions according to sources

I had expected to find more differences between the American and British usage, but it seems that the most notable differences and similarities occur between individual sources. What is more, some referring expressions were used almost similarly in the four sources in terms of the percentages. The pronoun reference *it*/*its*/*itself* for instance was used 26.6, 18.1, 24.0 and 19.8 per cent of all instances. In addition, *other nouns* than storm or hurricane were also used rather similarly in all sources, which might be surprising. The percentages were almost identical; 3.8, 3.2, 3.3 and 3.8 percent. One other expression that was used equally in the four sources was *this* with percentages between 0.5 to 1.9 per cent.

More variety can be seen in other expressions. The most striking difference is certainly in the use of proper noun without the noun *hurricane* (that is, proper nouns *Irene*, *Ike* and *Katrina)*. In *The New York Times* articles it is used only 1.4 per cent of the cases, whereas other sources use it 26.4, 32.7 or even as much as 33.3 per cent of all instances. One reason for the low frequency in *The New York Times* articles could be the author's personal preference. However, a number of reporters contributed to the articles so this is hardly the case. Another reason could be avoiding

sounding too familiar with the hurricane. After all, using proper nouns or "first names" may be considered showing unwanted closeness or emotion in these kinds of contexts as well. Yet another reason for the low frequency might be a reluctance of humanizing the storm. To see whether this is the case, the topic will be revisited in Chapter 8.

The low frequency of proper noun referring expressions without the modifying *hurricane* probably contributed to the higher-than-average frequency (16.7 per cent) of *Hurricane Irene*, *Hurricane Ike* and *Hurricane Katrina* in *The New York Times*. In *The Independent*, it occurred in 6.9 per cent of the instances, in the BBC 8.5 per cent and in the CNN 10 per cent of the cases. This shows that once again, the percentages between different sources are extremely similar. No instances of the gendered masculine pronoun *he*/*him*/*himself* could be found in the articles covering Hurricane Ike. Interestingly enough, in all four sources the feminine gendered pronoun was nonetheless used.

To conclude, it seems that the three sources use referring expressions rather similarly and the similarities or the differences detected do not seem to depend on the type of medium. Rather surprising similarities can be detected for instance between the articles of the American public broadcaster the CNN and the British newspaper *The Independent*. Their referring expression percentages are indeed very similar and the figures indicating the percentages (see Figure 2) almost identical. However, *The New York Times* articles seem to differ from the other three sources in that in the news reports, there are large amounts of *storms* and *hurricanes* and only few instances of proper nouns without the modifying *hurricane*. This all gives reason to look at *The New York Times* articles in comparison to other sources in more depth: it seems that the storms are perceived as less human and more like lifeless entities, which they are. To see whether this is true, this topic will be revisited in Chapter 8.

7.3 Ways of referring

As was stated in Section 3.1, referring expressions are used for grounding or anchoring a certain referent in the current discourse situation (Radden and Dirven 2007, 88). In the analyzed news articles, some typical patterns for this grounding emerged. In the case of Hurricane Irene and Hurricane Ike, the first mention to the storm was usually made by using the official name and the most informative expression for the storm: *Hurricane Irene* (in 12 out of 16 articles) or *Hurricane Ike* (in 8 out of 16 articles) or at least *Irene* (in 2 out of 16 articles) or *Ike* (in 7 out of 16 articles). In these cases, the referent is grounded in the discourse by giving the whole or at least part of the name first. In this way the storm is introduced to the reader.

In almost every case the first expression was used in the headline of the article. If the first expression was something else than *Hurricane Irene* or *Hurricane Ike*, the official name of the storm occurred nevertheless in the first paragraph. However, in the case of Hurricane Katrina, the official name of the storm was used in the first mention as few as 3 times out of 16. What is more, all three instances were used in *the New York Times* articles. *Katrina* was used in the headline 4 times out of 16, *hurricane* 7 and *storm* once. This might be somewhat surprising, since in the traditional newspaper article structure, it is common that the reader gets as much information as possible as early in the news as possible (Aitchison 2007, 107-8). The name of the storm in question is certainly an important piece of knowledge.

As stated in Section 3.2, in a discourse a topic is frequently introduced by using an indefinite referring expression and the following mentions of the topic are made with definite referring expressions (Kreidler 2002, 144). The analyzed news articles frequently have expressions, such as *Hurricane Irene* and *Ike* in their headlines and do not take articles the way the nouns *storm* or *hurricane* do. Since the proper noun referring expressions do not take articles and already introduce the referent in to the discussion, it is no surprise that in most cases no indefinite articles are used in front of *hurricane* or *storm* when they first appear in the article, but the referring expression is accompanied with the definite article *the*. The referent is already

introduced to the reader.

Most of the references made in the data are *anaphoric*; a previously introduced reference is recalled by using equivalent lexemes or function words, typically third person pronouns. An example of this is (9) taken from *The Independent*'s article "Hurricane Ike powers toward Turks and Caicos" (7.9.2008.).

> (9) *Hurricane Ike* powers toward Turks and Caicos
> "Extremely dangerous" *Hurricane Ike* grew to fierce Category 5 strength today as *it* roared on an uncertain path that forced millions from the Caribbean to Florida, and Louisiana to Mexico, to wonder where *it* would eventually strike.

In example (9), the first mention, *Hurricane Ike* introduces the referent. The same expression is repeated in the following paragraph and followed by two instances of the third person pronoun *it*. However, in some articles, the author refers forward to a referent which has not been introduced but will be immediately in the following paragraph. An example of this type of cataphoric reference is (10), which taken from the CNN article "New Orleans braces for 'the big one'" (29.8.2005., b);

> (10) New Orleans braces for *'the big one'*
> NEW ORLEANS, Louisiana (CNN) -- A solemn New Orleans Mayor Ray Nagin ordered mandatory evacuations Sunday as his city faced its worst fear -- the threat of a direct hit from *a major hurricane* that could swamp the low-lying city.

In example (10), the first mention is made in the headline of the news article. By using the expression *'the big one'* the author refers forward to Hurricane Katrina, which is introduced in the following discussion by the expression *a major hurricane*.

Since the genitive with apostrophe and *s,* as in *Ike's*, *storm's* and *hurricane's* is usually preferred for human nouns, and sometimes for animal nouns, while the *of*- genitive construction is preferred for inanimate nouns (Leech and Svartvik 2002, 62-3), it might be somewhat surprising that the first mentioned way was used more often. Indeed, storms certainly are inanimate, but instances such as *Irene's*, *Ike's* and *Katrina's* predominated. For instance, in the CNN article "NOLA mayor: If Ike comes, weary residents unlikely to flee" (8.9.2008.) the

expression *Ike's* was used as much as 9 times out of 28. It has to be noted that there were instances of the of-genitive, but not as many as of the genitive with apostrophe and *s*. Instances of those were for example *the outer reaches of the storm* (NY, 7.9.2008.) and *current path of the storm* (NY, 18.9.2008.).

7.4 Rarely used referring expressions

The previously mentioned referring expressions tell about how the storms are perceived, but the more extraordinary referring expressions might reveal even more interesting attitudes towards the three hurricanes. In Table 2 on page 37, the more extraordinary references to the storms are placed under *other nouns*. In the case of Irene these are *production*, *unknown*, *presence*, *radar image* (from *The New York Times*), *threat* (*The Independent*), *event* and *system* (CNN) and *assault* (BBC). As can be seen, *The New York Times* has clearly used more "innovative" expressions than the other three sources. In addition to adding color to the news article, another reason for the use of these words might be euphemism. This could be the aim to write in a way that does not offend for instance the people who have been affected by the storm. *Assault* can hardly be counted as this type of use, but for instance *production* and *event* might well be used in order not to offend anyone.

In the articles discussing Hurricane Ike *system* was used twice and in the articles covering both Hurricane Irene and Hurricane Katrina, it was used once. In its definition, the NHC describes hurricanes as *systems* (see the definition in Section 2.1). The word perhaps has a scientific feel to it so it is not surprising that the persons that used it were mostly different types of specialists, two from the NHC and one from head of the National Emergency Management Agency in the Bahamas island chain, and only one reference to a *system* was made by a journalist. Some other rather colorful expressions were used for Hurricane Ike, for instance *true danger* and *critter* (*The Independent*), *thing* (CNN) and *the eye of the storm* (BBC) referring perhaps meronymically to the storm.

Altogether five instances of *natural disasters* or *disasters* were used when referring to Hurricane Katrina, and no instances of those expressions were found in the news reports of the two other storms. After all, Hurricane Irene and Hurricane Ike can certainly be described as natural disasters, so one could expect the storms to be referred to as *disasters*. The reason for the differences in the usage might nevertheless be the amount of destruction that Hurricane Katrina made as compared to Hurricane Irene or Hurricane Ike. This might be the reason for the other more colorful referring expressions for Hurricane Katrina, when compared to the two other storms as well. Examples of these are *juggernaut* (NY, 27.8.2005.), *monster* (NY 29.8.2005. and ID, 30.8.2005., a) and *the big one* (used twice in CNN 29.8.2005., b).

As might be expected, the more colorful ways of referring were used by the writers of the articles and not by specialists, with the exception of the word *event*, which was used in the CNN articles by a governor being interviewed. One reason for this word choice could be keeping the readers unalarmed. *Event* makes a storm sound less like an uncontrollable animal, and more like a situation that is under control. The articles included a great number of statements from representatives of the NHC and from conference calls with reporters, but interestingly enough, in the direct speech quotations the referring expressions used were rather neutral and usually either *Irene, Ike, Katrina* or *it*. *Storm* and *hurricane* were used as well.

7.5 The Gendered pronoun

What is perhaps the most interesting difference between the referring expressions used of the storms that have women's names (Hurricane Irene and Katrina) and of the storm that has a men's name (Hurricane Ike), is the use of the gendered pronoun. *Ike* is indeed a male name and thus the storm could perhaps have been referred to as *he*/*him*/*himself*, but there were no instances of these expressions found in the data. However, some instances of the female gendered pronoun could be found.

It has to be noted that the number of articles on storms with female names, Irene and

Katrina, was twice as large (32) as the number of articles on Hurricane Ike (16). However, if the gendered pronoun was to be used of storms with male names, it is quite likely that it would have occurred in the data, albeit this cannot be said with certainty. There were altogether five instances of gendered pronouns found in the data that comprised of 1060 referring expressions. I was expecting to find more instances of gendered pronouns, but the five instances give a picture of how they are used. The possible motivations for the use will be discussed later in this section. In Subsection 3.4.1, the General Animacy Scale introduced by Yamamoto (1999), was discussed. In the scale some animals are ranked higher than others. When the animal is higher on the rank, there is a higher possibility of gendered pronouns to be used. As the data shows, even inanimate objects can be referred to by using these pronouns. However, storms can hardly be placed on the Animacy Scale, but the use is more likely personification or topicalization.

As was noted in Section 3.4.2, the gendered pronoun is often used with modes of transport, such as *cars* (Wales 1996, 153). Things that are inanimate and move, such as natural objects *rivers* and *seas* are hard to classify, since their movement suggests life (Wales 1996, 145). This is perhaps the case with winds and storms as well. Wales (1996, 149) states that winds are personified as either male or female, whereas storms are typically female and referred to as *she*. As mentioned in Section 7.2, the feminine gendered pronoun was used in all four sources, so the use does not seem to depend on the nationality (British versus American) or the medium (newspaper news versus online news). Consider the following five instances of the gendered pronoun found in the data:

(11) Katrina was only a category 1 hurricane when it landed, but people were stunned by *her* ferocity. (BBC, 27.8.2005.)
(12) Irene -- slowly but surely -- made *her* way toward them. (CNN, 26.8.2011., a)
(13) while Irene continues *her* journey north, those old enough to remember the hurricanes of 1938 will be counting their blessings. (ID, 29.8.2011.)
(14) But this time, it's different. Not because Irene is so huge, or that *she* is eyeing the Outer Banks. But this time, the young couple owns a house. (CNN, 26.8.2011., a)
(15) Before Katrina struck New Orleans with *her* 100mph-plus winds on Monday morning, 80 per cent of its inhabitants had heeded official advice to leave the city. (NY, 31.8.2005.)

In example (11), the pronoun seems to be used as a rhetorical device, as an intensifier. It certainly does not show closeness or affection for the storm and this is the case with other four examples as well. Examples (12) and (13) both have similar types of expressions, *make one's way* and *continue one's journey*. The expressions are metaphorical and perhaps in most cases used for humans or for animals. A metaphorical expression can be found in example (14) as well. *Eyeing* is something that is expected of animals and people but not of storms. Example number (15) seems to be used in order to add color to the sentence, since without it the sentence is filled with numerical information, *100mph winds* and *80 per cent*.

Interestingly enough, all of the gendered pronouns found in the articles occur in close connection with the name of the storm, *Irene* or *Katrina*. All five, or at least the first four instances of gendered feminine pronouns are found in metaphorical expressions, where the storm is humanized or at least seen as an animal. They are perhaps used mostly for their eye-catching properties or in order to add color to the text, but it is possible that they are meant to convey the negative emotion as well, when they are used together with *it*. As noted in Subsection 3.4.3, this type of rhetorical use of *she* and *it* expresses shifts of feeling (Wales 1996, 155). *She* is loaded with emotion while *it* is more neutral. However, the sentences containing *it* may well be as emotionally or even more emotionally loaded.

In this chapter, I have presented the results of the analysis of the referring expressions used of the three hurricanes. Frequencies of the expressions, as well as differences between the sources were commented upon. In addition, the typical patterns of referring that emerged from the data, as well as more rarely used referring expressions were introduced. The end of the chapter contained a discussion of the five instances of gendered pronoun detected. Next, I will proceed to presenting the results and analysis of the conceptual metaphor.

8 Results and analysis of the conceptual metaphor

This chapter contains the results and analysis of the five conceptual metaphors found in the data. Sections from 8.1 to 8.3 concentrate on the quantitative analysis and forming an overall picture of the data with the help of tables. Sections from 8.4 to 8.8 contain a qualitative analysis of the conceptual metaphors, which are the following: THE STORM IS A PERSON (8.4), THE STORM IS AN ANGRY PERSON (8.5), THE STORM IS AN ANIMAL (8.6), THE STORM IS AN ENEMY FORCE (8.7.) and THE STORM IS A VEHICLE (8.8).

The analysis of the conceptual metaphors has been organized into the in the previously mentioned order based on the Animateness Scale. In other words, metaphors having human sources will be discussed first, then the ones that have animate sources, and lastly, conceptual metaphors having inanimate sources. In each section of the qualitative analysis, a set of mappings will be provided to demonstrate the common ground between the target domain, which is THE STORM in every case, and the source domain, which varies. A number of examples taken from the news articles will be provided as well. The conceptual metaphors having human source could have been discussed under the same section but I chose to divide them into separate sections, since THE STORM IS AN ANGRY PERSON highlights different aspects of the storm than the more general THE STORM IS A PERSON. In addition, the high frequency of the ANGRY PERSON metaphor affected the choice to discuss the conceptual metaphors with human sources in two separate sections.

Furthermore, I am aware of the fact that a number of metaphorical expressions could have been placed under multiple conceptual metaphors. For instance *the strength* of the storm could have been discussed under PERSON metaphors[12]. However, what is perhaps more important than dividing the surface metaphors and linguistic expressions under certain conceptual metaphors with animate sources, is the fact that the hurricane is seen as a living creature and an active agent

[12] These types of animate expressions that could belong to either one have been placed into THE ANIMAL metaphors. Expressions that are more often used with humans however, are placed under THE PERSON metaphor. For the sake of clarity, they have been discussed under one conceptual metaphor only. In addition, if a certain expression fits into multiple conceptual metaphors, it is stated in the analysis.

in all of them, and not a lifeless "rotating, organized system of clouds and thunderstorms", as the NHC defines it. The superordinate conceptual metaphor for all the conceptual metaphors involving animate sources could for instance be THE STORM IS A LIVING CREATURE.

In the qualitative analysis, I will rely on the conceptual metaphor theory first introduced by Lakoff and Johnson (2003) and terminology used by Kövecses (2010). For instance, the terms *source* or *source domain*, *target* or *target domain* and *mapping* will be used. The domains are written in small capitals, as in AN ANGRY PERSON domain. In addition, the formula X is Y is used for conceptual metaphors, introduced for instance in Goatly (2007) and in Kövecses (2010). Lakoff and Johnson's (2003) concept of hiding and highlighting will also be used. *The OED* has been consulted in order to specify the meanings of some of the linguistic expressions and words that have multiple senses. Italics are added in the examples in the following sections in order to highlight the importance of certain expressions and words. As stated above, before moving on to the detailed qualitative analysis, I will present the findings in the form of quantitative analysis, that is, in the form of Table 3 and 4 and Figure 3 in order to form an overall picture of the data and make some comparisons between the sources and the individual storms.

8.1 Frequencies of the conceptual metaphors

Altogether 306 metaphorical expressions were found and only the clearly metaphorical expressions were taken into account. However, the qualitative analysis in the following sections includes other expressions as well, that might support the conceptual metaphors found in the data. For instance expressions relating to *track* and *path* could in many cases have been categorized under PERSON, ANIMAL or even VEHICLE metaphors and were therefore excluded from the following tables. However, the tables are presented in order to give an overall picture of the data.

Next I will present the frequencies in a tabular form. Table 3 and 4 include the occurrences according to sources, whereas Figure 3 includes the instances according to the three hurricanes. See Appendix 3 for a list of the types metaphorical expressions depicting how they are

categorized into larger groups forming the five conceptual metaphors. Appendix 4 includes a more detailed version of Table 3. First, consider Table 3 which includes instances of the conceptual metaphors found in the data:

Table 3: Frequencies of the conceptual metaphors

Source Domain	The New York Times	The Independent	The CNN	The BBC	All
A PERSON	15	12	12	6	45
AN ANGRY PERSON	33	27	30	24	114
AN ANIMAL	30	36	21	22	109
AN ENEMY FORCE	2	6	7	4	19
A VEHICLE	8	3	2	6	19
Total	88	84	72	62	306

In Table 3, the first column consists of the names of the source domains from which expressions are mapped into the target domain, THE STORM. The next four columns present the number of occurrences. The last column consists of the instances in all of the four sources combined.

What emerges at a first glance when looking at Table 3 and the column including all instances, is that the metaphorical expressions relating to humans, and more particularly expressions from the domain of AN ANGRY PERSON were the most frequent expressions found in the data. The next most occurring conceptual metaphor was clearly THE STORM IS AN ANIMAL. However, it needs to be noted that expressions relating to the strength of the storm were categorized under the THE STORM IS AN ANIMAL metaphor (see Appendix 4). Indeed, the expressions relating to strength were so frequent that they accounted for most of the ANIMAL metaphor expressions in Table 3. Interestingly enough, the source domains of AN ENEMY FORCE and A VEHICLE amounted to equal number of instances, 19.

8.2 Differences and similarities between the four sources

In Table 4, the raw numbers of Table 3 have been converted into percentages, so that the frequency of the conceptual metaphors according to the source could be examined. The percentages are rounded up so that the table is easier to examine.

Table 4: Percentages of the conceptual metaphors

Source Domain	The New York Times	The Independent	The CNN	The BBC	All average %
A PERSON	17	14.3	16.7	9.7	14.4
AN ANGRY PERSON	37.5	32.1	41.7	38.7	37.5
AN ANIMAL	34.1	42.9	29.2	35.5	35.4
AN ENEMY FORCE	2.3	7.1	9.7	6.5	6.4
A VEHICLE	9.1	3.6	2.8	9.7	6.3
Total	100	100	100.1	100.1	

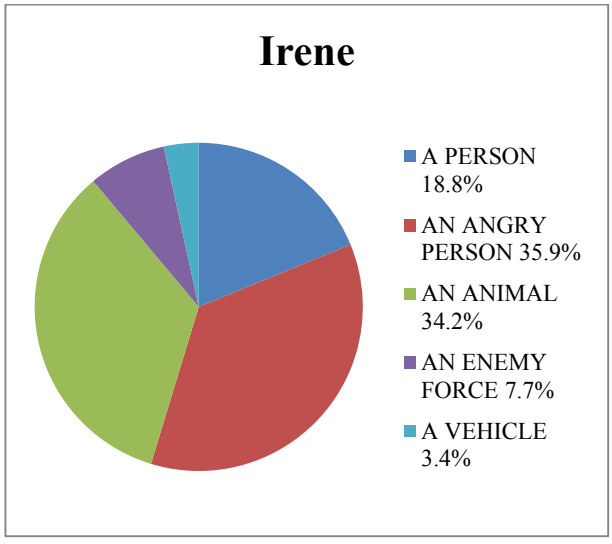
Interestingly enough, there seems to be no great differences in the usage of different conceptual metaphors between the four sources. Some marginal differences could nevertheless be found. For instance, the BBC had the least occurrences of metaphors from the PERSON domain (9.7 per cent), but the number of expressions relating to the domain of AN ANGRY PERSON was relatively high and the PERSON and ANGRY PERSON metaphors combined result to an average percentage, 48.4 that is similar to the percentages with the other three sources. The source in which the most occurrences of expressions from the ANGRY PERSON domain could be found is the CNN with 41.7 per cent. This probably has had an effect on the lower-than average frequency of THE STORM IS AN ANIMAL metaphors in the said source, which was 29.2 per cent.

The conceptual metaphor THE STORM IS AN ANIMAL was used most frequently in *The Independent* (42.9 per cent) and therefore, the expressions from the PERSON domain were not as numerous as in the other three sources. As mentioned above, the differences between the sources on the frequently occurring metaphors were only minor ones. However, more differences could be detected in the more rarely occurring conceptual metaphors, THE STORM IS AN ENEMY FORCE and THE STORM IS A VEHICLE. Least metaphorical expressions from the domain of AN ENEMY

FORCE could be found in *The New York Times*. That is to say, they accounted for only 2.3 per cent of the occurrences, whereas in other sources they accounted for 6.5 to 9.7 per cent. In addition, expressions from the semantic domain of VEHICLE were used more often in *The New York Times* and the BBC (9.1 and 9.7 per cent). They were less frequent in *The Independent* and the CNN (3.6 and 2.8 per cent).

8.3 Differences and similarities between the three storms

Interestingly enough, there were some differences between the amounts of metaphorical expressions used for each storm. Most metaphorical expressions were found in the articles covering Hurricane Irene (117 instances), while news reports covering Hurricane Katrina amounted to 97 expressions and the ones covering Hurricane Ike had 92 expressions. The most common metaphor themes were used almost equally in the articles covering the three storms. Figure 3 includes the percentages of the metaphors used for the three storms (see Appendix 5A, 5B and 5C for the raw numbers as well as Figure 3 in a tabular form):



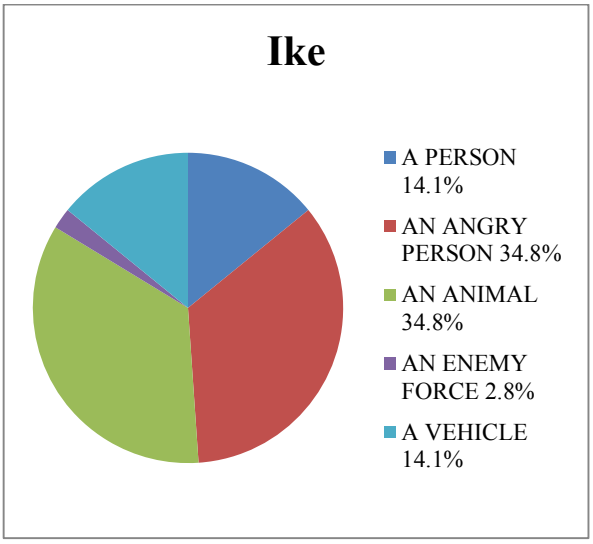


Figure 3: (Contd.)

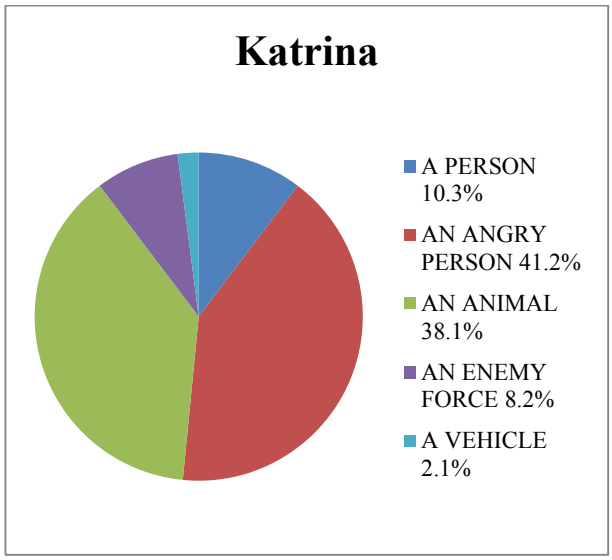


Figure 3: Conceptual metaphors used for the three storms

Figure 3 shows that the percentages in the three parts of the figure are indeed similar to one another. The metaphorical expressions from the human source domains (the conceptual metaphors THE STORM IS A PERSON and THE STORM IS AN ANGRY PERSON) account approximately fifty per cent of the instances in each part of the Figure 3. Most expressions relating to persons were found in the articles on Hurricane Irene, while articles on Hurricane Ike had the least occurrences.

Interestingly enough, the news articles on Hurricane Katrina had the most instances from the semantic domain of AN ANGRY PERSON. They accounted for 32 instances, which is 42.1 per cent out of 97 expressions found. The source domain ANIMAL was present in the articles of the three hurricanes with surprisingly equal percentages; 34.2, 34.8 and 38.1 per cent of the cases.

Even though the more common or more occurring metaphors were used relatively similarly in the articles covering the three storms, some differences could be detected in the use of the less frequent metaphors. The conceptual metaphor THE STORM IS A VEHICLE was more common in the articles covering Hurricane Ike (14.1 per cent), whereas in articles on Hurricane Irene and Hurricane Katrina it was less frequent (3.4 and 2.1 per cent). Furthermore, Hurricane Ike differed

from the other two storms in the case of THE STORM IS AN ENEMY metaphor as well. It was used only 2.8 per cent in the news reports on Hurricane Ike, while in the articles on the other two hurricanes it was used 7.7 and 8.2 per cent of the cases. Next I will move on to the qualitative analysis of the data.

8.4 THE STORM IS A PERSON

Personification of the hurricanes seemed to be a common way of describing them in the articles and especially expressions relating to the source domain of AN ANGRY PERSON were prominent. Before moving onto discussing the ANGRY PERSON metaphor, I will first introduce the conceptual metaphor formed by the metaphorical expressions relating to persons in general, that is, the conceptual metaphor THE STORM IS A PERSON. The target domain of this metaphor is THE STORM and A PERSON serves as a source domain from which different aspects are drawn into the target domain. As stated in Subsection 4.4.1, this "drawing" is also known as *a ground*, or *mapping*. Consider the following figure which consists of a set of mappings and illustrates how the storm is understood as a person:

Source: A PERSON		Target: THE STORM
the human being	→	the storm
the human personality	→	the characteristics of the storm
walking or running	→	the movement of the storm
traveling	→	moving from point a to point b
body parts	→	parts of the storm

Figure 4: THE STORM IS A PERSON

In Figure 4, the aspects of a person are mapped into the storm. In other words, the storm is seen as a human being that has a personality, moves by walking or running, travels and even has body parts. Therefore, this conceptual metaphor highlights the human characteristics of the storm, while at the same time hiding for instance aspects of the storm that have a common ground with a

vehicle (discussed in detail in Section 8.8). The following unnumbered subsections show how the linguistic expressions and word choices constitute the mappings in the actual news articles.

The actions associated with human beings

In most of the 48 articles, some actions that are usually associated with humans were used for the three storms. On many occasions, the storm was seen as an active agent that did damage to the property in one way or another. Hurricane Ike for instance was *tossing their furniture like toys* (CNN, 14.9.2008.) and *stripped ripening beans from coffee bushes* (ID, 9.9.2008., a), while Hurricane Katrina *flung boats onto Mississippi* (BBC, 29.8.2005., a). In these italicized expressions, the storm performs actions that seem deliberate. Consider the following examples:

(16) Even if the cone *says* it may not move (NY, 23.8.2011.)
(17) *Hurricane Katrina made a mockery* of preparation (NY, 31.8.2005)
(18) *She is eyeing* the outer banks (CNN, 26.8.2011., a)
(19) *Energizing* over *bathtub-warm* waters (CNN, 26.8.2011., a)

Indeed, the examples from (16) to (19) include actions that are usually associated with human beings. In (16) *saying* is a human action, but *say* in this context could also mean 'giving information' and not necessarily vocalizing it. In (17) Hurricane Katrina is able to make the preparation for it seem foolish, whereas in example (18) Hurricane Irene is looking the land area off the coast of North Carolina with interest. The use of gendered pronoun *she* might act as an intensifier in the metaphorical expression, and in that way contribute to the personification. In (19), Irene is *energizing*, which could refer to other animate beings than humans, but it is used with *bathtub-warm waters*, which suggests bathing in a bathtub, which of course, is a human action as well. However, the personification of the storms was not limited to actions only. The hurricanes were described as moving in a way a human would. This is illustrated by the following examples:

(20) The *storm continued its march* (ID, 30.8.2011.)
(21) *it ran* along the length of the Caribbean's largest island (ID, 9.9.2008.)
(22) *Katrina took a slight jog* to the southwest (CNN, 26.8.2005.)
(23) *Ike raked* the Bahamas (ID, 9.9.2008.)

In (20) *marching* is a clear example of a person's movement. Fast movement of a person is seen in examples (21), (22) and (23) as well. *Jogging* and *running* are both types of running. *OED* (s.v. *rake v*. 1, sense 2) defines the verb *rake* as follows: 'To go, proceed, or move forward, esp. with speed'. It can be used of persons, but also of animals or things (ibid.). Interestingly enough, the storms seemed to have a goal or a destination in mind, and were not *running* or *marching* around aimlessly. Usually the goal was some kind of area important to people, such as a city or a state:

(24) Irene *made her way* toward them (CNN, 26.8.2011., a)
(25) Before *heading for New York* (ID, "30.8.2011.)
(26) *The storm will head* right up to the Jersey Shore (CNN, 26.8.2011., a)
(27) *aimed for the US east coast* (CNN, 26.8.2011., b)

The examples from (24) to (27) all include movement towards a certain goal. The gendered pronoun *her* used together with the name *Irene*, as opposed to for instance inanimate *storm* or *hurricane*, intensifies the mapping of human features in (24). *Making her way*, *heading* and *aiming for something* in the examples can be seen as deliberate and thought actions – therefore, the storm seems to be able to think and has some sort of cognitive attributes. The other types of cognitive attributes that the storms have will be discussed in more detail under subsection *Cognitive attributes*.

Traveling

Traveling is an activity in which the goal of the movement is usually present as well. Some metaphorical expressions, where the storm was traveling from place to place were found in the data. Hurricane Irene's travelling is shown in the following examples:

(28) *Hurricane that travels* (NY, 26.8.2011.)
(29) *Its journey* through north-east states (ID, 29.8.2011.)
(30) *Irene continues her journey* north (ID, 29.8.2011.)
(31*) Irene's tour of the city* (CNN 28.8.2011.)

In addition to *traveling* as in (28), *journey* in examples (29) and (30) refers to moving from one place to another, possibly with a vehicle. Again, the gendered pronoun used with metaphorical expression in (30) intensifies the mapping from the domain of PERSON. Interestingly enough, there were no instances of any kinds of linguistic expressions that directly relate to traveling used in the news articles on Hurricane Ike or Hurricane Katrina. However, numerous instances of vocabulary relating to *paths* and *tracks* were found. These will be discussed under Section 8.6.

Cognitive attributes

As seen in the previous examples, in THE STORM IS A PERSON metaphor, the storm is able to perform actions commonly associated with humans. These actions require thinking and other cognitive skills that human beings have. One example of this is the previously mentioned *heading to a place*. Others are for instance:

(32) *sparing the region* of much of the damage that had been feared (ID, 29.8.2011.)
(33) *Irene will prepare* for a possible second landfall (CNN, 25.8.2011.)
(34) *The storm will avoid* landfall (CNN, 26.8.2011., a)
(35) *The storm kept favoring* (NY, 29.8.2005.)
(36) *These storms have mind of their own* (ID, 7.9.2008.)

In example (32) the storm *spares* the region of damage. According to *OED* (s.v. *spare v.*1., sense 1a), *spare* means leaving somebody unhurt, unharmed or uninjured. *Preparing* and *avoiding* in (33) and (34) refer to getting ready for something and to staying away of something mentally or physically. *Favoring* in (35) also suggests cognition. As can be seen, usually metaphors are not explicitly stated as in (36), but some figurative expression is used instead. In example (36) the storms are claimed to *have minds of their own*, which is, of course, a feature of human beings or at least animals.

Personality

In the analyzed articles, the storms were not only people in that they performed actions and were able to think, but seemed to have personal qualities as well. One example of Hurricane Irene's mindset or nature used in one news article can be found in *The New York Times* article "Damage and Flooding Scar Atlantic Seaboard" (27.8.2011.):

(37) Weakened but *unbowed*
(38) *Announcing itself* with howling winds and hammering rains
(39) *as if to challenge the National Hurricane Center's early morning decision* to downgrade Irene
(40) *it will just sit here and dump rain*

If one heard someone being *unbowed*, *announcing itself*, *challenging someone or something* and *sitting and dumping rain*, he or she would probably think of a rather stubborn or even proud person being described, rather than a hurricane. Not only does this *The New York Times* article demonstrate how the hurricanes can have personal qualities, but it also shows how the conceptual metaphors are constructed of a cluster of metaphorical expressions in one article.

Some other examples of the storm's nature or mindset found are its *brutal authority* (NY, 26.8.2011.), the facts that *Irene boasts hurricane force winds* (BBC, 26.8.2011., A), *forced more than a dozen cruise ships to change their itineraries* (CNN, 25.8.2011.) and *has prompted the Bahamas Ministry of Tourism & Aviation to recommend strongly that people* […] *postpone their trips* (CNN, 25.8.2011.).

The three storms also *forced* and *threatened* people and places. These metaphorical expressions will be discussed in more detail in Section 8.5, in which the anger and violence of the storms are discussed.

Expressions supporting the metaphor

A group of expressions and words that support the THE STORM IS A PERSON metaphor emerged from the articles. The storms were referred to as having body parts. More often than not the

possession of body parts was not stated directly, but only implied. Consider the following examples:

(41) a storm that had *a huge footprint* (ID, 7.9.2008.)
(42) with tropical storm force winds stretching up to 140 miles from *its eye* (ID, 7.9.2008.)
(43) *mouth* of the dangerous storm (NY, 23.8.2011.)

The metaphorical use of *footprint* and *eye* are heightened because of the fact that the examples (41) and (42) are used in the same paragraph of a news article in *The Independent*. Of course, *footprint* can mean a large area instead of an actual mark left behind when a person walks by as well. In (43) the storm has *a mouth*, which is usually seen as something a human being or an animal can have. Furthermore, storms were frequently referred to as having *an eye*, but in storm-related news it is probably not used metaphorically, but it is simply a term used for the center of the storm. In addition to previously mentioned expressions relating to body parts, the storms frequently performed actions in which hands are needed, such as *punching*. These actions that imply storms having body parts are discussed in Section 8.5.

To summarize this section, expressions relating to the conceptual metaphor THE STORM IS A PERSON were relatively frequent among the analyzed data. Most importantly, the storms were described as active agents that performed actions associated with humans, moved as humans, travelled and had cognitive attributes. What is more, some features of a human personality were ascribed to the storms and Hurricane Irene was for instance seen as a stubborn person. The vocabulary relating to body parts was not frequent, but nevertheless intensified the conceptual metaphor.

8.5 THE STORM IS AN ANGRY PERSON

The conceptual metaphor THE STORM IS AN ANGRY PERSON can be considered a part of the previously discussed conceptual metaphor THE STORM IS A PERSON, since anger for instance can be seen a state of mind or even a trait of someone's personality. However, this metaphor theme highlights different aspects than the THE STORM IS A PERSON metaphor, namely the aggressive

nature and violence of the storm.

The target of this metaphor is again, THE STORM and AN ANGRY PERSON is the source. Their common ground is that both can cause destruction as a result of their actions. Storms usually cause physical destruction, while angry persons can be violent physically or mentally. People execute physical violence by using fists or tools, whereas the storm causes harm with the help of wind and rain. Figure 5 consists of a set of mappings that help us describe the storm as an angry person:

Source: AN ANGRY PERSON		Target: THE STORM
the angry human being	→	the storm
the anger	→	the intensity of the storm and its winds
the acts of violence	→	the storm's impact
the victim of an assault	→	the place or person affected by the storm
threatening	→	the possibility of the storm striking

Figure 5: THE STORM IS AN ANGRY PERSON

The aspects of the source domain AN ANGRY PERSON that are mapped to the target domain THE STORM can be seen in expressions discussed in the following subsections. In short, the storm is seen as a person who is extremely angry and even violent. He or she threatens the victim and may resort to physical violence. First, the anger of the storm is discussed in detail in the next unnumbered subsection. The following subsections include a discussion of the actions of an angry person, the acts of violence, the victims of the storm and finally, discussion of the expressions supporting this metaphor.

The anger of the storm

The fact that the three storms are angry is stated rather explicitly in word choices such as *fury*, *ferocity* and *wrath*. All of the three hurricanes were described as being angry, but most expressions relating to anger were found in the articles on Hurricane Irene (8 instances), which

was the mildest storm of the three, reaching the Category 3 status, whereas the other two that reached Categories 4 and 5 had less instances. Interestingly enough, Hurricane Ike had the second most instances (6), whereas articles on Hurricane Katrina contained the least (3). The following examples illustrate the storms' anger:

(44) Hurricane Irene Puts East Coast *in Line for Fury* (NY, 26.8.2011.)
(45) the worst of *the storm's wrath* (NY, 27.8.2011.)
(46) people were stunned by *her ferocity* (BBC, 27.8.2005.)
(47) This critter was *angry, really angry*. (ID, 9.9.2008.)
(48) could come ashore as *a ferocious Category 4 storm* (ID, 11.9.2008.)
(49) *the fierce storm* was threatening to pound a far larger area this weekend (ID, 27.8.2011.)
(50) the hurricane *had lost a bit of steam* as it approached the territory (ID, 24.8.2011.)
(51) *Furious wind, rain and the sea surge from Hurricane Ike* destroyed or damaged at least 90 percent of the homes (CNN, 8.9.2008.)

The examples from (44) to (49) all include expressions in which the anger of the storm is made clear with the following word choices: *fury*, *wrath*, *ferocity*, *angry*, *ferocious* and *fierce*. Again, the gendered pronoun *her* used in (46) possibly intensifies the human connotation. The word choice *critter* may refer to a human or an animal, but it is nonetheless disparaging (*OED* s.v. *critter n*). *Losing steam* in (50) could relate to the ANGER IS HEAT primary conceptual metaphor, discussed in Subsection 4.4.3., in which a person feels hot when he or she is angry and his or her body reminds a pressurized container which lets out steam. The container explodes if the pressure gets too high. Therefore, losing steam means lowering the pressure and thus the anger one feels decreases. As can be seen in (51), not only the storm is angry, but its parts are too. *Furious wind*, *rain and sea surge* can be seen as tools or perhaps body parts such as hands with which the storm causes destruction.

Actions of an angry person

In addition to an angry person's mindset, numerous actions that an angry person might perform are also mapped into the storm domain. *The threatening* and *forcing* mentioned previously in the discussion of the human characteristics in Section 8.4, contribute to the THE STORM IS AN ANGRY

PERSON metaphor as well. Examples (52)-(56) illustrate how the expressions are used in the news articles:

(52) Hurricane Irene, the first major storm of the Atlantic hurricane season, *could threaten "the entire East Coast*," (NY, 23.8.2011.)
(53) *was threatening to pound a far larger area* this weekend (ID, 27.8.2011.)
(54) *Hurricane Irene stalks U.S. coast* (CNN, 26.8.2011., b)
(55) *Katrina had menaced the Gulf Coast* over the weekend (ID, 30.8.2005.)
(56) *Ike forced the couple and their dog, Trouble, into the attic*, tossing their furniture like toys across the house.

Vocabulary relating to threatening could be found in the news articles covering the three storms. In (52) the threat of Hurricane Irene is probably that there is a possibility of it hitting the entire US east coast, whereas in (53) it threatens to strike larger area than expected. *Stalk* (*OED* s.v. *v*.3, sense 3a) means pursuing something by stealthy approach. *Menacing* as in (55) can be counted as a type of threatening as well: In (55) the storm quite clearly threatens to harm the Gulf Coast. What is more, the storms seemed to *force* people as in example (56). In addition to *threatening* and *forcing*, the storms were also described as moving in a threatening way as in the following examples:

(57*) Hurricane Irene bears down on* large East Coast cities (CNN, 28.8.2011.)
(58) *the new hurricane bore down on* the island with heavy winds and rain that could total 10 inches (NY, 7.9.2008.)

The expression *bear down on something* in examples (57) and (58) could mean moving in a threatening way toward the cities and the island. It was used in articles on Hurricane Irene and Hurricane Ike, but not once in articles discussing Hurricane Katrina.

As we have seen in the examples, the three storms *threaten*, *force* and appear to be something or someone one should be scared of. This is highlighted by the recurring and colorful violence vocabulary so that the storms are seen as angry persons in that that they are not only dangerous but also physically violent. These expressions to violence will be discussed in the following subsection.

Acts of violence

As might be expected, the storms caused destruction as they struck land and this was also reported in the news articles. In many cases the verb forms used were in active, so that the storms seemed to be active destroyers, doing damage on purpose. An example of this can be seen in a paragraph taken from "Hurricane Irene bears down on large East Coast cities", CNN (28.8.2011.):

> (59) As *it passed through North Carolina*, *Irene ripped off roofs* and *caused other damage* to homes and businesses in Hyde and Jones counties, *toppled trees* that blocked roads and *brought down power lines* statewide, according to the state emergency management division.

In (59), the italics used indicate the frequent way in which the storms were described destroying and damaging property. However, what is perhaps more interesting, is the recurring vocabulary relating to physical abuse. The hurricanes performed different types of acts of violence, some with hands, and others by using tools. Consider the following examples of violent acts usually done by using bare hands:

> (60) islands that extend off those coastlines, which could start feeling *Irene's punch* by Friday evening. (CNN, 26.8.2011., a)
> (61) Ike has already *punched* Cuba (CNN, 8.9.2008.)
> (62) *Hurricane Irene is pummelling* the US east coast (BBC, 28.8.2011.)
> (63) *Hurricane Katrina is pummelling New Orleans with howling gusts and blinding rain* (BBC, 29.8.2005., a)
> (64) *hurricane that walloped* southeast Texas and southwest Louisiana (CNN, 14.9.2008.)
> (65) US residents from Florida to Texas braced for *Ike's next wallop*. (ID, 9.9.2008., b)

In (60) and (61), *Irene's punch* and *punching* could refer to striking or hitting something with a fist (*OED* s.v. *punch*, *v.*1, sense 7a). *Pummeling* in examples (62) and (63) means '[t]o beat or strike repeatedly, esp. with the fists; to pound, thump' (*OED pummel*, *v.*). As can be seen, according to these *OED* definitions, punching and *pummelling* are usually done with hands. This is why it could be argued that *the howling gusts* and *blinding rain* might act as hands or fists in the example number (63). *Walloping* in (64) and (65) is also done by hands. *OED* (*wallop* s.v. *n*, sense 4a) defines it as '[a] heavy resounding blow; a whack'. As can be seen, these acts of

violence are performed by using hands, which supports the previously mentioned idea of storms having body parts. Consider the following examples, in which acts of physical violence are performed with the help of various tools:

(66) *Hurricane Irene began lashing* the North Carolina shore (NY, 26.8.2011.)
(67) *Weakened Hurricane Irene batters* US east coast (ID, 27.8.2011.)
(68) *Hurricane Irene hammers* Bahamas islands (BBC, 26.8.2011., b)
(69) *Texas could be lashed with 130mph (208km/h) winds and a 20ft (6m) storm surge* above normal tide levels (BBC, 11.9.2008.)

In examples from (66) to (68), Hurricane Irene, Ike and Katrina are said to *lash*, *batter*, and *hammer* land areas and islands. According to *OED* (s.v. *lash v*.1, sense 6a; s.v. *batter v*.1, sense 1a and s.v. *hammer v*, sense 1a), these all are verbs of which definition suggests hitting with a tool or weapon. In (69), the tools used for lashing are *winds* and *a storm surge*. The next 8 examples include acts of violence that can be executed with either hands or weapons:

(70) Before *the storm's outer bands of wind and rain began hitting the coast* (NY, 26.8.2011.)
(71) *They got hit really, really bad* (BBC, 7.9.2008.)
(72) *it would eventually strike* (ID, 7.9.2008.)
(73) *It beats on everything* for so long (NY, 26.8.2011.)
(74) Mississippi and Alabama are also being *pounded by the violent storm* (BBC, 29.8.2005.)
(75) It was *Katrina's second blow*: *The hurricane hit the southern tip of Florida* (ID, 30.8.2005.)
(76) Hurricane Katrina also *dealt a blow* to the oil industry (NY, 30.8.2005.)
(77) As anticipated, *the storm did not deliver a knockout blow* to Fort Lauderdale (NY, 27.8.2005.)

Hitting and *striking*, as in the examples from (70) to (72) can be considered as acts of violence, but in many cases they are used in the sense of 'reaching the land'. *Beating* in (73) means 'striking repeated blows' (*OED* s.v. *beat v*.1, sense 1a). Likewise, according to *OED* (s.v. *pound v*.1, sense 2a; s.v. *blow* n.1, sense 1a), *pounding* in (74) and dealing a *blow* as in (75) are both acts of physical violence executed by using either hands or instruments. The expressions *deal a blow* and *deliver a knockout blow* in (76) and (77) could also come from another semantic domain as well, namely boxing. Nevertheless, only few instances of these types of expressions were found.

Therefore, there were not enough instances for the conceptual metaphor THE STORM IS A BOXER to be established.

In addition to hitting with weapons or hands, the storms seemed to act violently while they moved: the storm *could slam into Manhattan* (CNN, 26.8.2011., a), *Hurricane Ike Smashes West Through Caribbean* (NY, 7.9.2008.) and *Ike slammed Cuba* (NY, 10.9.2008.).

The victims of the storm

As it was presented in Figure 5 on page 60, the places or persons affected by the storm can be seen as victims of an assault or defending themselves towards the angry person. The following examples show how the victims of the storms are described in the news articles:

(78) the toll being exacted by the hurricane in *its first victims, North Carolina and Virginia*. (NY, 27.8.2011.)
(79) insurance companies may be taking advantage of *Hurricane Katrina victims* (16.9.2005.)
(80) The low-lying and *vulnerable American city of New Orleans* (ID, 30.8.2005., b)

In example (78), North Carolina and Virginia are explicitly stated to be the storm's *first victims* and in (79) the *Hurricane Katrina victims* are the people that have been affected by the storm. In (80), New Orleans is described as *vulnerable*, which means it is easily attacked or affected by something or someone.

Expressions supporting the metaphor

As the subsection titled *acts of violence* showed, the storms were indeed violent and physical in their bursts of anger. For instance, the sentence *the aftermath could prove more painful than the storm itself* (ID, 30.8.2011.) suggests that the storm has indeed caused pain to people, whether it is physical or mental pain.

Nevertheless, the most extreme act of violence that has not yet been seen in the examples is *killing*. Instances of various types of killing can be seen in (81)-(86) below:

(81) *the number of people reported killed* in Haiti just *from the effects of Hurricane Ike* reached at least 58. (NY, 7.9.2008.)
(82) *deaths from Ike* (ID, 9.9.2008.)
(83) *Irene claimed lives* as far north as Connecticut (ID, 29.8.2011.)
(84) *Hurricane Katrina has killed up to 55 people* on the US Gulf coast (BBC, 30.8.2005.)
(85) Ike hit Haiti hard, *killing more than 300 people* (CNN, 8.9.2008.)
(86) "*It's dead*," said Rick Spraggins, who works for a cable television company. "*This place is hurting for years*." (NY, 31.8.2005.)

The six examples show that there are different levels of agency involved in the acts of killing. When people are *reported killed from the effects of Hurricane Ike* as in (81) or it is stated that there are *deaths from Ike* as in (82) for instance, the storm is not seen as active a killer as in (83), (84) and (85), where the storms *claim lives*, and *kill people*. The example number (86) has quotes in which the city of Biloxi is stated *dead* and then *hurting for years*. Even though the statements are somewhat conflicting, they suggest that the storm did indeed do physical harm to its victim, the city of Biloxi, and even killed it.

The conceptual metaphor THE STORM IS AN ANGRY PERSON was the most frequent metaphor found in the data. The anger of the storms was stated explicitly in the articles. However, most of the vocabulary and metaphorical expressions contributing this metaphor came from the descriptions of physical violence performed by people. The violent acts were executed by using either hands or various tools, such as a *hammer*. In addition, the storms also killed people actively and caused deaths. The people that were affected by the storms were seen as victims of assaults.

8.6 THE STORM IS AN ANIMAL

The conceptual metaphor THE STORM IS AN ANIMAL was not as frequently used as THE STORM IS AN ANGRY PERSON metaphor, but still quite prominent in the articles. This type of animistic metaphor is a conceptual metaphor, where attributes of animate entities are ascribed to inanimate entities, in this case THE STORM which serves as a target domain. The source domain in this conceptual metaphor is AN ANIMAL. The common ground between the storm and the animal is

that they both produce noises, move from point a to point b, can use strength and are unpredictable. The following figure contains a set of mappings detected in this metaphor:

Source: AN ANIMAL		Target: THE STORM
the animal	→	the storm
the noises produced by an animal	→	the noises the winds and the storm makes
the strength	→	the intensity of the storm
the movement of an animal	→	the storm moving
the animal being born	→	the formation of a storm
the unpredictability of a wild animal	→	the unpredictability in forecasting the storm
the track	→	the path the storm moves

Figure 6: THE STORM IS AN ANIMAL

In Figure 6, aspects of an animal are mapped into the storm. That is to say, the storm is seen as an animal that moves, produces different types of animal noises and is unpredictable. In addition, in one news article, the storm is seen as an animal being born (see the following subsection). Therefore, this conceptual metaphor highlights the animal characteristics of the storm, while at the same time hiding for instance the characteristics of the storm that make it seem an inanimate vehicle (The THE STORM IS A VEHICLE metaphor will be discussed in detail in section 8.8). In the following subsections, I will discuss the characteristics and noises that are usually associated with animals, the movement and strength of animals and finally, the unpredictability that is common to a wild animal and a natural phenomenon, such as a hurricane.

Animal characteristics and noises

There was a large amount of characteristics most commonly associated with animals found in the articles. The clearest ones are probably the noises that animals produce. Consider the following examples of the noises produced by the three hurricanes:

(87) to becoming *a violent, roaring presence* (NY, 27.8.2011.)
(88) *Hurricane Irene howls* over Turks and Caicos (ID, 24.8.2011.)
(89) Hurricane Ike, having spun away from Cuba and *roared into the Gulf of Mexico* (NY, 10.9.2008.)

Roaring and *howling* in examples from (87) to (89) are noises characteristic of wild animals. *OED* mentions wild animals in the definitions of both of the words: *howling* is 'a prolonged, loud, and doleful cry, in which the sound of u (ū) prevails'. It is used of various wild animals, such as dogs and (*OED* s.v. *howl v*, sense 1)[13]. *Roar*, on the other hand is used of a large and typically wild animals in the meaning 'to utter a loud deep cry' (*OED*, s.v. *roar v*.1, sense 1 a). *Roar* in (4) might also be used of vehicles in the sense of moving 'at high speed making a loud prolonged sound' (*OED*, s.v. *roar*, *v*.1, sense 7a). This sense will be revisited in section 8.8.

Furthermore, the storms act as animals in other respects as well. For instance, in *The New York Times* article "With Few Warning Signs, an Unpredictable Behemoth Grew" (29.8.2005.), Hurricane Katrina had other characteristics typical of animals, especially mammals. Consider the following paragraph from the beginning of the article:

(90) With Few Warning Signs, an Unpredictable *Behemoth Grew*

> As ripples of vapor-filled turbulence began to organize into a storm over the steamy waters of the southeastern Bahamas early last week, *Tropical Depression 12 was born*, *giving few hints* that *it was an embryonic monster* that *would grow into Hurricane Katrina*.

Firstly, in the headline of the article Hurricane Katrina is called *a Behemoth*, which *grew*. *OED* (s.v. *behemoth n*) defines *behemoth* as follows: 'An animal mentioned in the book of Job; probably the hippopotamus; but also used in modern literature as a general expression for one of the largest and strongest animals'. *A Tropical Depression* is a milder version of a tropical storm. Here it is perhaps seen as an animal in its fetus stage: not quite yet dangerous but still going to cause extreme damage when it grows and develops into a full-grown animal. *Being born*, *being an embryonic monster* and *growing into something* are expressions which refer to animals or more specifically to mammals and thus it could be said they are contributing to the conceptual metaphor of THE STORM IS AN ANIMAL.

[13] *OED* has another sense, in which it is mentioned that *howling* is used '[o]f inanimate agents, esp. the wind or a storm' (*OED* s.v. *howl v*, sense 4).

Movement of an animal

The storms naturally move from point a to point b. In some cases, their movement was described in terms of animal movement, as in the following examples:

(91) *The storm lopes northward* (NY, 24.8.2011.)
(92) *Hurricane Katrina lumbered* ashore (CNN, 26.8.2005.)

Loping in (91) is a running with a long and bounding stride (*OED* s.v. *lope*, *v.* sense 3a), while *lumbering* in (92) is a slower movement in a clumsy or blundering manner (*OED* s.v. *lumber*, *v.*1, sense 1). It needs to be noted however, that these expressions can be used to describe human movement as well. Furthermore, usually neutral and non-figurative expressions were used of the storms' progress. The movement of Hurricane Irene was described as follows: *It Moves Toward U.S.* (NY, 23.8.2011.) and *it approached the territory* (ID, 24.8.2011.). In addition, the storms' movement was also described using the words *track* and *path*. However, both of them are frequently used to describe movement of persons or vehicles as well (*OED* s.v. *track n*, sense 1a; *OED* s.v. *path n.*1, sense 1a).

Strength

Yet another characteristic associated with animals or animate beings emerging from the data was the strength of the storm. The storms were able to use strength and what is more, become stronger and gain power. Again, these expressions can be used of humans as well. The strength seemed to be a very prominent feature used when comparing the storms with living creatures and indeed almost every news article had some sort of expression relating to it. Consider the following examples of the storms' strength:

(93) Hurricane Irene *Strengthens* (NY, 23.8.2011.)
(94) It may *get a little stronger* (NY, 24.8.2011.)
(95) We didn't anticipate *it gaining this much strength* (BBC, 23.8.2011.)
(96) *to maintain its strength* over Cuba (ID, 9.9.2008., b)

(97) *Hurricane Ike gathered strength* as it churned through the Gulf of Mexico's warm waters (ID, 11.9.2008.)
(98) *Ike was unlikely to regain strength* before coming ashore (ID, 9.9.2008., a)
(99) *it drew energy* from the warm waters (NY, 29.8.2005.)

The examples from (93) to (95) are instances of Hurricane Irene's strength. It *strengthens*, *gets stronger* and is able to *gain strength*. Hurricane Ike on the other hand, is able to *maintain its strength*, *gathers* it and is unlikely to *regain* it. The strength of Hurricane Katrina was also frequently commented upon. Energy has also to do with strength and in (99) the hurricane gets the energy from warm waters. Here the warm waters might replace food or other energizing substance that an animal needs in order to gain strength. Not only did the storms gather strength and become more powerful and energetic, but the three hurricanes seemed to weaken in a way a tired animal would. These expressions relating to weakening of the storms are shown in the following three examples:

(100) Overnight, the hurricane *weakened* slightly (NY, 26.8.2011.)
(101) *Ike wears itself out* beating up on Texas (CNN, 14.9.2008.)
(102) *Irene to lose some strength* (CNN, 26.8.2011., b)

In the examples from (100) to (102), the hurricanes *weaken*, *wear itself out* and *lose strength*. In example (101), the hurricane also *beats up on Texas*, so this expression might better fit into THE ANGRY PERSON metaphor in which the angry person tires itself out while beating up on Texas. Even though most of the strength related expressions could be placed under any conceptual metaphor having animate source, the strength related vocabulary contributed to the animal metaphor as well and made the storms seem animate, since strength is usually associated with animate entities, rather than inanimate ones. Along with the mentions of the strengthening of the hurricanes, discussion on the weakening of the storms was also extremely common.

Expressions supporting the metaphor

In addition to the previously mentioned metaphorical expressions that constitute THE STORM IS AN ANIMAL metaphor, there was another aspect of the storm that is usually associated with both

wild animals and storms; the unpredictability. Tropical cyclones can only be forecasted and when the storm finally strikes land, the exact place of impact is somewhat hard to predict. Wild animals are unpredictable as well: they may be dangerous and attack when one is not cautious with them. The unpredictability of the storms is shown in the following examples:

(103) *Hurricane Ike was expected* to gain strength (NY, 11.9.2008.)
(104) *Ike's forecast track* was through Galveston (CNN, 12.9.2008.)
(105) it roared on *an uncertain path* (ID, 7.9.2008.)
(106) *the projected path* of the hurricane (BBC, 26.8.2011., a)
(107) *Irene's anticipated arrival* on Sunday (BBC, 26.8.2011., a)

Many of the expressions used in (103) – (107), such as *expected*, *forecast*, *uncertain* and *projected* are common in weather predictions, and since the storms are indeed weather phenomena, it is not surprising they are used in the news articles as well. Therefore, even though the unpredictability forms a common ground between the two domains, it is perhaps too strict a statement to claim that the unpredictability is an inherent part of the conceptual metaphor. Therefore, one could say the aspect of unpredictability only supports the present metaphor. Along with unpredictability, a common way for describing the hurricanes was depicting them as dangerous, as in the following examples:

(107) the NHC said it was still potentially *very dangerous* (BBC, 7.9.2008.)
(108) *The mouth of the dangerous storm's cone* took dead aim on Tuesday at North Carolina (NY, 23.8.2011.)

Danger is perhaps what comes to mind when one thinks of a wild animal, but it is not part of a wild animal's definition. As uncertainty, danger could be said to support the metaphor as well rather than constructing it. Furthermore, the expressions relating to danger could well fit into the conceptual metaphor THE STORM IS AN ANGRY PERSON as well.

Overall, this conceptual metaphor was relatively frequent in the data. Especially the noises associated with animals, other characteristics and the movement of the storms were central for this metaphor, but as mentioned in Section 8.1, the expressions relating to strength of the storm accounted for a large portion of the expressions found. Strength can indeed be applied to the

other conceptual metaphors that have an animate source as well. In addition, unpredictability discussed in this section may be one aspect that comes to mind when one thinks of a wild animal.

8.7 THE STORM IS AN ENEMY FORCE

Vocabulary relating on war and destruction was not nearly as frequent as the vocabulary relating on the previously discussed conceptual metaphors. However, since the vocabulary on war is so distinctive, the expressions found clearly formed a conceptual metaphor THE STORM IS AN ENEMY FORCE.

The target is again THE STORM, and the source is AN ENEMY FORCE or THE DOMAIN OF WAR. Their common ground is the fact that they both can be seen as entities which are perceived as negative and not wished-for events. They cause damage and destruction and people facing these events need to defend themselves and their property from them. The following figure consists of these and other features that ate mapped into THE STORM domain:

Source: AN ENEMY FORCE		Target: THE STORM
the enemy force	→	the storm
the shooting	→	the wind and rain causing damage
the defending party	→	the people and areas affected by the storm
defending itself	→	preparing for the approaching storm

Figure 7: THE STORM IS AN ENEMY FORCE

In Figure 7, the aspects of an enemy force are mapped into the storm. Therefore, the storm is seen as an enemy force or an enemy in a war that may cause damage using fire arms. The enemy force of course consists of people, but the concept of an enemy force or an enemy in a war is considerably more abstract than in the previously discussed metaphors having human sources and the person attributes are partly hidden. This source domain highlights the destruction and violent attacks that the wind and rain cause.

In the news articles, there were also vocabulary used relating on *Armageddon* and *the end*

of the world. These instances will be discussed at the end of this section even though they are not directly related to the ENEMY FORCE metaphor. Because these types of occurrences were rather infrequent, no separate section discussing them was considered necessary. They nevertheless stood out from the news articles, because they are indeed colorful and rather strong expressions that evoke emotive connotations. Next, I will discuss the events relating to war and actions of an enemy force.

Actions of an enemy force and events in a war

In the analyzed news articles vocabulary relating to fire arms and war in general occurred especially in the news articles covering Hurricane Irene. Consider the following examples:

(109) The mouth of the dangerous storm's cone *took dead aim on Tuesday at North Carolina* (NY, 23.8.2011.)
(110) Irene caused relatively little damage *strafing the Bahamas* (ID, 27.8.2011.)
(111) It looks like *somebody set a bomb off*. (ID, 30.8.2011.)
(112) Cat, San Salvador and Long islands *"took direct hits,"*. (CNN, 26.8.2011., b)
(113) what is predicted to be *a 36-hour assault* on the US east coast (BBC, 28.8.2011.)

Among the vocabulary relating to the conceptual metaphor THE STORM IS AN ENEMY FORCE, references to war were numerous and examples from these can be seen in examples from (109) to (113). *Dead aim* in (109) may refer to aiming a target with a gun. *Strafing* in (110) too has to do with fire arms. It means attacking from an airplane while flying low in the sky with machine gun fire or bombs (*OED* s.v. *strafe*, *v*.) This metaphorical expression is quite appropriate, since the storm itself can be seen as flying in the air as an airplane. The strafing is probably done with the winds and rain that the storm brings with it, and thus they can be seen as the bullets or the bombs hitting land areas. In the example number (111), a situation after the storm has struck is described. Again, here the common ground between the storm and a war can be seen: the situation is very similar since both of them destroy property. *Direct hit* in (112) could refer to a bomb or a bullet reaching its target accurately. *A 36-hour assault* in example number (8) could as well be a reference to a war or a violent attack.

Interestingly enough, most of the war vocabulary and metaphorical expressions relating to it were used in the news covering Hurricane Irene and the second most instances were on articles dealing with Hurricane Katrina. Among the examples (109) to (113) there are no examples taken from the articles covering Hurricane Ike. The reason behind this is that there were simply no instances found in the news articles on Hurricane Ike. One example relating to war could however be found and it is discussed under the following subsection.

The Defense

Certain word choices used with the expressions discussed in the previous section make it seem as if the land areas or cities were the opponent or enemy of the storm in a war. However, it seems like the opponent is not actively planning to strike back, but is more or less defending itself and trying to survive the coming assault. The following examples illustrate this point further:

(114) Stores even farther north in New Hampshire were also *gearing up for Irene* (CNN, 26.8.2011., a)
(115) Florida's north-west is *steeling itself against the impact of Hurricane Katrina* (BBC, 27.8.2005.)
(116) As *Florida braces for further onslaught* (ID, 28.8.2005.)
(117) *the already beleaguered islands* of the Caribbean (NY, 7.9.2008.)
(118) This city is *under siege* (BBC, 29.8. 2005., b)

Gearing up for Irene and *steeling itself against the impact of Hurricane Katrina* in the examples (114) and (115) are instances where one can see how the people and areas are trying to defend themselves from and ready themselves for the coming enemy force. Furthermore, the state of Florida is *bracing for*, that is preparing for the assault in the example number (116). According to *OED* (s.v. *beleaguer v*, sense 1), *beleaguer* means '[t]o surround (a town, etc.) with troops so as to prevent ingress and egress, to invest, besiege' and *under siege* refers to the action where an army invests for instance a town in order to cut off outside communication (*OED* s.v. *siege n*, sense 6a). Incidentally, *beleaguered* was the only clear reference to war vocabulary in the articles

on Hurricane Ike. Next, the destruction common to a war scene and a scene after a hurricane has struck is under discussion.

Expressions supporting the metaphor

At the beginning of Section 8.7, it was mentioned that the common ground between the storm and an enemy force include the destruction they both cause. Expressions, such as *destruction* (NY, 7.9.2008.), *widespread damage* (ID, 11.9.2008.*)* and *devastation* (BBC, 14.9.2008.) were indeed frequent in the data. However, some even more extreme expressions were found in the articles, not necessarily relating to the ENEMY FORCE metaphor. Hurricane Irene for instance was described as *a storm that spared the nation's biggest city a nightmare scenario* (ID, 30.8.2011.) and after Hurricane Ike had struck, the scene was as follows: *"What I saw in this city today is close to hell on earth"* (NY, 7.9.2008.). In CNN article "NOLA mayor: If Ike comes, weary residents unlikely to flee" (8.9.2008.), following expressions were used to describe the situation after the storm had hit: "*It pretty much looks like an episode of 'The Twilight Zone,'"* and *"It's like the end of the world."* (CNN, 8.9.2008.). What is more, even the apocalypse was mentioned in some of the articles on Hurricane Katrina: *it was not the apocalyptic storm forecasters had feared* (ID, 30.8.2005. a) and *New Orleans, in short, stands on the brink of the "apocalypse scenario"* (ID, 31.8.2005.). These expressions are probably used in order to add color to the news articles.

To conclude, in the conceptual metaphor THE STORM IS AN ENEMY FORCE, the storms were described as a force that is both destructive and deadly. The destruction was on many occasions done by using fire arms and expressions such as *strifing*, and *taking a dead aim* occurred in the data. The people and places seen as defending themselves contributed to the metaphor as well.

8.8 THE STORM IS A VEHICLE

The conceptual metaphor THE STORM IS A VEHICLE was among the least frequent metaphors found in the data. The target is again THE STORM, and the source is A VEHICLE. The common

ground between the target and the source is the fact that both of them move – and need something to keep them moving, whether it is fuel or warm waters. Therefore, the metaphor certainly highlights the movement of the storm while at the same time hiding for instance the previously discussed violence aspect of the storm (see Section 8.5). Consider the following figure:

Source: A VEHICLE		Target: THE STORM
the vehicle	→	the storm
getting more fuel	→	the winds increasing in intensity
barreling, rumbling, et cetera	→	the movement of the storm
the course of a vehicle	→	the direction of the storm
steering the ship	→	the storm moving in a certain direction

Figure 8: THE STORM IS A VEHICLE

Figure 8 demonstrates how the storms are seen as vehicles; they need *fuel* and move either *barreling* or *steer* in some direction. What is more, the storms were also described as vessels and were *steered*. In addition, the vehicles have a *course* along which they move. The next subsection will discuss on the movement of the storm in more detail.

Movement of a vehicle

As it has become clear, the storms' movement is described in many different ways in the hurricane related news articles. They for instance move in a way an angry person or an animal would, but the verb phrases relating to movement of a vehicle are surprisingly frequent as well. The following examples illustrate how verb phrases relating to movement that is often associated with motor vehicles, such as cars, are used for describing the movement of a hurricane:

(119) Hurricane Ike *barrels* west (NY, 7.9.2008.)
(120) as *it barreled toward the Texas-Louisiana border* (CNN, 8.9.2008.)
(121) it quickly *rumbled across* the state (NY, 29.8.2005.)
(122) as *it roared on an uncertain path* (ID, 7.9.2008.)

Barreling used in the examples (119) and (120) is perhaps used in a sense '[t]o move or travel quickly, esp. in a motor vehicle (*OED* s.v. *barrel* v, sense 4). *Rumbling* in (121) may describe the

sound a moving vehicle or other heavy machinery makes (*OED* s.v. *rumble* v.2, sense 3b), but it is also used of thunder or other natural phenomena (*OED* s.v. *rumble*, v.2, sense 3a). *Roaring* as in (122) was already discussed in Section 8.6, but in addition to animal noises, it can be used of vehicles as well in the sense of 'making a loud prolonged sound while moving at high speed' (*OED* s.v. *roar*, *v*.1, sense 7a). The following metaphorical expressions are more or less frequently occurring with ships or vessels:

(123) it is expected *to veer on a more northward path* (NY, 23.8.2011.)
(124) If the hurricane continues to *steer east* of the coast (NY, 24.8.2011.)
(125) *skirting* to the west of the main region for offshore production in the Gulf (ID, 11.9.2008.)
(126) But *the storm's course shifted* (BBC, 26.8.2011., b)
(127) the hurricane *had lost a bit of steam* as it approached the territory (ID, 24.8.2011.)

Veering as in example (123) may be used of ships in the meaning 'change course' (*OED* s.v. *veer v*.2, sense 2). Similarly, *steering* and *skirting* in examples (124) and (125) have to do with steering a vessel. (*OED* s.v. *steer v*.1, sense 1a; s.v. *skirt v*, sense 3a). *Course* in (126) is a term used for marine vessels and *OED* (s.v. *course n*.2, sense 12a) defines it as '[t]he direction in which, or point of the compass towards which, a ship sails'. *Losing steam* in (127) was already discussed in connection with the ANGRY PERSON metaphor, where it was seen as part of the ANGER IS HEAT metaphor. However, it could also refer to a ship that has a steam engine. *Losing the steam* in this context could mean for instance losing speed.

Fuel

Some examples of the storm using fuel as a source of energy could be found in the news articles on Hurricane Ike. However, these instances were not numerous and occurred in a few articles only. Consider the following examples from *The New York Times* and *The Independent*:

(128) *the storm refueled* in the gulf and headed toward landfall (NY, 10.9.2008.)
(129) with *the warm waters of the gulf as fuel*, it is expected to develop (NY, 10.9.2008.)
(130) Ike had moved just offshore, *giving it fuel* to maintain its strength (ID, 9.9.2008., b)

In example (128) one could expect the source of energy used for *refueling* to be the warm waters as in the example (129), since the warmth of the waters gives the storm more intensity. In the example number (130), an expression relating to strength, which suggests animateness is used together with the metaphorical expression *giving fuel*. This is usually the case in other news articles as well and expressions from several source domains may be used even in one paragraph in a news article.

The metaphorical expressions contributing to this metaphor were usually verb or noun phrases. However, the storm was once described as a type of vehicle as well, namely *a major juggernaut* (NY, 27.8.2005.). *OED* (s.v. *juggernaut* n, sense 3) defines *juggernaut* as '[a] large heavy vehicle', such as a heavy lorry. To summarize, the conceptual metaphor THE STORM IS A VEHICLE did not occur in the data as frequently as the metaphors that have animate sources. However, some distinctive expressions, such as *fuel* and movement of the vehicles stood out in the data and contributed to this metaphor.

In this chapter, the conceptual metaphors found in the data have been examined in detail, first concentrating on the quantitative analysis and then moving on to qualitative analysis. Altogether five conceptual metaphors were found in the data. The metaphors that have animate sources were the most frequently used and especially THE STORM IS AN ANGRY PERSON proved to be a prominent metaphor when discussing the three hurricanes. Next, the results and analysis of this and the previous chapter are commented upon in Chapter 9.

9 Discussion

In this chapter, I will discuss the most important findings presented in Chapters 7 and 8. The order in which I will proceed in Section 9.1 is roughly the same as in which the results were presented in the previous two chapters. The section contains some comparison between the conceptual metaphors and the referring expressions as well. Section 9.2 focuses on the study itself.

9.1 Discussion of the results

The analysis of the 48 news articles on hurricanes showed that they were indeed referred to in multiple different ways. The more innovative expressions, such as *monster* and *assault* were probably used in order to make the news more interesting and to add color. Overall there seemed to be a preference to use the more general referring expressions for the three hurricanes, since *storm* was always used more often than *hurricane*. Proper nouns were frequent as well. They were also used in constructions, such as *Irene's*, *Ike's* and *Katrina's*, where possession was indicated. In fact, this construction was by far more frequent than the one that is usually used with inanimate nouns, which is the *of*-construction (Leech and Svarvik 2002, 62-3). Therefore, one could argue that the usage seems to support the idea of seeing the storms as humans or at least as animals. Admittedly, the fact that the storms are named after men's and women's names probably has an effect on the usage.

Taken the fact that pronouns are common in anaphoric expressions (Yoshida 2011, xxiii) and that condensing of information is common in journalistic style (Biber 2003, 171), they were expected to have been used somewhat more often than 22.6 per cent of the instances.

Differences in the use of referring expressions were looked for. It might be a bit surprising that no clear tendencies between the types of sources, that is to say American versus British or newspaper news versus online news, emerged. In fact, the figures in Section 7.2 seemed to be extremely similar with one exception. In *The New York Times*, the proper nouns *Irene*, *Ike* and *Katrina* were used only few times, whereas the other sources had numerous instances. It was concluded that this might result from the fact that the authors of the articles did not want to personify the storm or that they did not want to sound too "familiar" with the storms by using the proper noun without the noun *hurricane* (that is to say, the official name for the storm, such as *Hurricane Irene*). However, the results of the metaphor analysis show that at least the idea of avoiding personification was not correct, since in *The New York Times* articles, THE STORM IS A

PERSON and THE STORM IS AN ANGRY PERSON metaphors were in fact used as frequently as in the other three sources.

In addition to differences between the four sources, differences in the use of referring expressions between the three storms were also looked for. It was stated in Section 3.1 that the referent is anchored into the discussion by using a referring expression. One could assume that using the official the NHC name for the storm, for instance *Hurricane Irene* in the headline is the most common way of anchoring the referent into the discussion, as opposed to using *Irene*, *hurricane* or *storm*, which give less information and are vaguer. Indeed, this was usually the case except in the case of Hurricane Katrina, for nouns and proper nouns were more common in the headlines of the news articles covering the storm. One possible reason for the high frequency of nouns and proper noun *Katrina* used without the noun *hurricane* could be the fact that the storm was in fact the most destructive of the three and there were no need for grounding the referent into the discussion. The reporters may have assumed that the readers knew what storm was being talked about without even mentioning the name of the hurricane. This idea is supported by the instance of yet another referring expression used in a headline in the CNN's article discussing Katrina; *the big one*. It is possibly assumed that the reader knows about the approaching, big and destructive storm. Other reason for using such a vague expression in a headline might be to get the reader interested in the news article by using a colorful expression.

The results showed that in hurricane news reporting, the gendered pronoun is not a frequent phenomenon, since only 5 instances out of 240 third person pronouns used were gendered pronouns. These results differ somewhat from the results of Hernández's (2011) study, in which she concluded that the gendered pronoun is a relatively frequent phenomenon. However, it has to be noted, that the topic of the present study was narrower than that of Hernández's, since this study was focused only on the hurricane discussion. Furthermore, in Hernández's data, the masculine forms predominated, unlike in the present study. Some similarities could nevertheless be found between the two studies. In both of them, the gendered pronouns were used for

personification. However, the fact that there are no instances of the masculine gendered pronouns used in the data of this study seems interesting, since in other contexts it seems to predominate.

Siemund (2008) studied the use of animate pronouns (*he*/*she*) for inanimate objects in regional varieties of English. The main claim he made was that that pronominal gender in English is dependent on the degree of individuation of the entity that is being referred to (Siemund 2008, 3). According to him, proper nouns frequently refer to entities that have a high level of individuation. It could be said that the three hurricanes have a relatively high level of individuation, since they are referred to by using proper nouns. What is more, in the case of all five instances of the gendered pronouns found in the data, the storm was referred to by using a proper noun usually in the same sentence.

Wales (1996, 149) states that winds are seen as either male or female, whereas storms are typically female and referred to by using *she*. Furthermore, Wales (ibid.) notes that winds could be expected to be personified as males because of their power and strength. On that account one could suggest that storms should be personified as male as well – after all, they certainly are powerful and even violent. Therefore it seems interesting that only female gendered pronouns occurred in the data. However, the earlier storm naming practices could be one reason affecting the perception of the storms as females. When the storms started to be named after people's names, the first ones were named after women's names. Wales (1996, 143) points out that the female name *Nessie* used when referring to the Loch Ness monster suggest familiarity and a wished for domestication of the wild as with storms. In the case of hurricanes, I would think that the mentioned wished for domestication of the wild could be in question. Furthermore, Wales (1996, 154) notes that the female gendered pronoun is frequently used in order to convey a negative meaning and this might be the case in the instances found in the data as well. The results suggest that the storms named after men's names tend to be referred to by *it* and only by *it* and no occurrences of the male gendered pronoun or even the female gendered pronoun used for Hurricane Ike could be found in the data.

The analysis of the conceptual metaphors showed that the storms are seen as active agents and judging by the recurring violence vocabulary and the sources of the conceptual metaphors used, they are seen as negative events or entities. The negative attitude towards the storms may be seen in sources, such as AN ANGRY PERSON, AN ENEMY FORCE, and perhaps in AN ANIMAL as well, taken the fact that the storms were seen as animals that were dangerous. However, the other two sources, A VEHICLE and A PERSON were more neutral ones.

There were altogether five conceptual metaphors found in the data. The reason for this high frequency of different types of metaphors found might be the fact that the storms have multiple aspects to them and each metaphor source highlights indeed different aspect of a storm. Consider again the example introduced in Section 4.4.1: The metaphor AN ARGUMENT IS WAR highlights the confrontational aspects of an argument, while hiding the fact that an argument may often involve and organized development of a topic that is present in AN ARGUMENT IS JOURNEY metaphor (Evans and Green 2006, 304). Likewise, the violence and the physical harm the storms caused is highlighted in the conceptual metaphor THE STORM IS AN ANGRY PERSON, while it is hidden in THE STORM IS A VEHICLE, where the movement from point a to point b and the fact that the storm needs energy in order to move, are highlighted. The fact that these different conceptual metaphors were found in the data, supports the idea in Lakoff and Johnson (2003, 25). According to them (ibid.), the ontological metaphors help us understand non-physical experiences or abstract concepts as physical objects. By describing the storms as different types of entities, that is, by using metaphorical expressions from multiple different source domains, it is easier to understand the different aspects of the hurricanes.

The reason why we need conceptual metaphors to understand hurricanes is perhaps the way the storms are constructed. A hurricane is a weather phenomenon that cannot be seen as a whole, concrete entity (except on a radar image) in front of you, but is more or less abstract. However, even though it cannot be seen, the destruction it causes is certainly visible.

As stated in Section 8.1, the conceptual metaphors that have human sources were the most

frequent. Taken the fact that ontological metaphors help us understand the world around us, the frequency of these sources as compared to others is perhaps not surprising. After all, human beings are familiar to us humans and this is why it is easier to understand the approaching hurricane by ascribing familiar characteristics to it. In addition to human sources, the expressions from the source domain of animals were relatively frequent as well. Again, animals in general are probably more familiar to us than the hurricanes which may be harder to understand and to form an overall picture of. What is more, even vehicles, such as cars may be seen as familiar to us: after all, they are something we use and see on a daily basis.

Even though one might argue that the expressions coming from the domain of WAR, and thus the conceptual metaphor THE STORM IS AN ENEMY FORCE are not extremely familiar to us or not at least present in everyone's lives as some of the other sources for storms. However, war and for instance the threat of terrorism is indeed prominent topic in the news and in media in general. The expressions relating to the strength of the storms were discussed under the conceptual metaphor THE STORM IS AN ANIMAL. However, strength related expressions can of course be used of human beings as well. In the analysis, it became clear that these types of expressions were extremely frequent. The reason behind this is most likely the fact that the intensity of the storms was discussed in terms of the Saffir-Simpson Hurricane Wind Scale. As mentioned in Chapter 2, the scale rates the tropical cyclone from Category 1 to 5 according to the intensity of the winds that the hurricane produces. Incidentally, in this scale, the primary metaphor MORE IS HIGH or MORE IS UP discussed in Subsections 4.4.2 and 4.4.3 seems to be in play. The higher the intensity of the storm, the higher it is placed on the Saffir-Simpson Hurricane Wind Scale.

Even though the fact that ontological metaphors help us understand unfamiliar concepts has been highlighted in this thesis, it is most likely only one of many reasons why the metaphorical expressions occur in the news articles. One other reason might be that they simply add color to the news and make it more emotional or dramatic. Furthermore, the reason why they are used in the headlines and right at the beginning of the news article might be their eye-catching properties.

The importance of an interesting headline is even more vital in the case of the online news, since quite often the reader is only able to see the headline of a news article while browsing in the Internet.

As stated in Section 8.2 and 8.3, there were no great differences either between the four sources or between the three storms in the use of conceptual metaphors. Some might consider this an insignificant finding, but in my opinion it is quite interesting. Judging by these results, it could perhaps be argued that there seems to be a convention of using certain conceptual metaphors and metaphorical expressions when discussing the storms in the news. This is indeed the case at least in the articles on three storms studied. The proposed conventionalization of using the conceptual metaphors in hurricane related news is also seen in the fact that in the cases of all four data sources, AN ANGRY PERSON metaphorical expressions dominated and the metaphors having inanimate sources were always less frequent.

What comes to previous studies and the results of this study, for instance in Nerlich's (2011) study on media discourse dealing with disease management relating to foot and mouth disease and avian influenza (see Section 5.2), the metaphorical expressions from the domain of *war* were extremely frequent, and especially in cases where the source of the virus and the trajectory before arriving in the country were unknown (ibid., p. 132). Furthermore, according to Nerlich (2011, 130), *journey* or *invasion metaphors* were used of the approaching viruses as well. The virus seemed to travel towards a goal (ibid.). Interestingly enough, the results of this study show some similarities between the discussion of viruses and hurricanes. In many cases, the exact path of the storm cannot be predicted and the *war* metaphor occurred somewhat in the articles as well. Furthermore, as seen in Section 8.4 in the analysis, the storms indeed seem to travel towards a goal.

Vocabulary relating to war was common in Aitchison's (2003) study on news reporting on the 9/11 plane crash as well. War related vocabulary occurred in the data of this study, too, but was not frequent. However, it has to be noted that the subjects of the news reports in the previous

accounts were different and covered topics such as terrorist attacks and diseases. It would have been interesting to compare the results with a previous study on news reporting for instance on natural phenomena, but unfortunately relative studies could not be found. As mentioned in this section, there were no great differences between the use of conceptual metaphors in British versus American sources. This of course might be expected, since they are not far from each other culturally. In addition, even if the two cultures were not close, it has been shown that some conceptual metaphors indeed occur across cultures (Kövecses 2005, 34).

To return to the study of Aitchison (2003), she stated that the results of her study showed that figurative language was still relatively rare in the news reporting, and the language used composed mainly of every day words. The hurricane news reporting seems to differ from the reporting on 9/11 plane crash in this respect, since this study clearly showed that figurative language and especially metaphorical expressions were indeed frequently used. Moreover, Aitchison (2007, 112) states that there is no need to dramatize disasters by using figurative language, since they already are dramatic themselves and that the more dramatic the story, the fewer literary devices need to be used. This statement could be examined taking into account the fact that Hurricane Katrina was the most destructive, caused the most property damage and claimed most lives out of the three storms under examination. The articles on Hurricane Katrina had 97 instances, on Hurricane Ike 92, whereas Hurricane Irene had the most with 117 instances (see Appendix 5A). If Aitchison's statement was valid in this case, news covering Hurricane Katrina would have had the least expressions. However, the differences in the frequencies are still relatively marginal so no strong claims can be stated. Furthermore, the differences in the destructiveness of the storms were not perhaps so drastic that the results could be generalized. Therefore it might be interesting to study news reporting on other and even more destructive natural phenomena, such as the extremely destructive Indian Ocean tsunami which occurred in 2004, to see whether fewer metaphorical expressions are used in that case. Overall, all the previous studies on conceptual metaphors seemed to suggest that the expressions forming these

metaphors are not random, but are constructed in a coherent way. This seemed to be true in the present study as well. For instance the conceptual metaphor THE STORM IS A PERSON was constructed of numerous different types of expressions, such as movement, actions and cognition that were all part of constituting the said metaphor.

In addition to examining the referring expressions and conceptual metaphors separately, I was also interested in possible correlations between the two. The tables presented in Chapters 7 and 8 did not show significant correlations between the sources or the three storms in the use referring expressions and metaphors. However, there seemed to be some correlations between the use of the gendered pronoun and the conceptual metaphors. Consider again the example that was introduced in Chapter 1:

> Fears were perhaps greatest in North Carolina and Virginia and on the slivers of islands that extend off those coastlines, which could start feeling *Irene's punch* by Friday evening.
> But this time, it's different. Not because *Irene* is so huge, or that *she* is *eyeing* the Outer Banks. (CNN, 26.8.2011., a)

In the example, the storm has attained human characteristics and is able to *punch* and *eye something*. In addition, gendered pronoun *she* is used along with proper noun *Irene* as referring expressions. In Subsection 3.4.2, Wales (1996, 146) noted that gendered pronouns and personification are likely to co-occur. The results of this study seem confirm this statement. In fact this was the case at least in 80 per cent (4 out of 5 instances) of the cases. What is more, the proper nouns (as opposed to the full name of the storm such as *Hurricane Katrina* or noun such as *hurricane*) were always used in close connection with the gendered pronoun. An example of this can be seen in the following sentence: *Not because Irene is so huge, or that she is eyeing the Outer Banks* (CNN, 26.8.2011., a). The referring expressions *Irene* and *she* used in the same sentence together with the metaphorical expression *eyeing something*, contribute to the personification.

9.2 Discussion of the study

It could be argued that the topic of this thesis is rather broad and that the research could have concentrated on the conceptual metaphors only. However, since I was interested in examining the overall picture of how the storms are perceived, it was considered necessary to include the analysis of the referring expressions in the study as well. Furthermore, it was relatively challenging to compare the topic with earlier accounts, since no previous studies on storms or even other natural phenomena could be found. The choice of the sources for the primary data, however, was considered quite successful, since by using the four different kinds of sources I was able to get an overall picture of the news discussing hurricanes. In addition, the sources did not differ from one another drastically in terms of the contents of the news reports. Nevertheless, in order to get more comprehensive results of the phenomena studied, a larger corpus would have been in place. For instance the use of the gendered pronoun could be analyzed more thoroughly, if there were more than five instances of it found.

The decision to select Hurricane Irene, Ike and Katrina as the storms to study was considered appropriate as well. However, it would certainly have been interesting to study an even milder storm, for instance a tropical depression in order to see whether the intensity of the storm has a notable effect on the language used. However, it became clear when selecting the news articles to study that the milder storms usually did not have as much news coverage as the more severe ones and this might have caused problems with the data collection. As stated in Section 6.2, the primary data was collected manually. Another approach used in Charteris-Black's (2004a) Critical Metaphor Analysis (CMA) was also considered for gathering the metaphorical expressions from the data. Charteris-Black's approach was corpus-based and the metaphorical expressions used were gathered using keywords, which were then analyzed in context to see whether they were used metaphorically (Charteris-Black 2004a, 35). Admittedly, this method would have been less time-consuming and the possibility of making mistakes would have decreased. However, had I used this method, a fair amount of interesting metaphorical

expressions would most likely not have been detected. Therefore, when it comes to answering the research questions, the methods employed seemed to be suitable for the present study, albeit time-consuming.

Analyzing metaphors is of course a subjective effort and influenced largely by the experiences of the individual. Therefore it is likely that had a different person analyzed the same material, some differing opinions would have emerged. This is why every effort was made so that the analysis would be as transparent as possible by including more detailed categorizations of the conceptual metaphors, as well as the raw numbers presented on the tables in both Chapter 7 and Chapter 8 in the Appendix. What is more, a number of examples were provided in the analysis. The biggest challenges were undoubtedly encountered when categorizing and analyzing the metaphorical expressions, because some expressions were clearly overlapping and could have been used with multiple conceptual metaphors.

In addition to the limitations of this research, it might be noteworthy mentioning the aspects of this study that were successful. The news articles analyzed were reasonably recent, for they were published during 2005 and 2011. This means that I was able to reveal how hurricanes are discussed in present day mass media. To my knowledge, no previous studies on this topic have been conducted so the results most likely contribute new information to the field of cognitive linguistics. Furthermore, no information on how the storms with male names are referred to and whether the gendered pronoun is used of them at all could be found in the works dealing with the gendered pronoun.

In this chapter I have discussed the main findings presented in Chapter 7 and 8 in more detail. In addition, the results were related to earlier accounts. The latter part of this chapter consisted of a discussion of the study itself, including some suggestions for improvement. Next, a summary of the main results and some concluding remarks are provided.

10 Conclusion

The purpose of this study was to reveal how the three hurricanes, Hurricane Irene, Ike and Katrina are discussed in the media, with the main focus on reference and conceptual metaphor. In order to achieve this, a data of 48 news articles culled from two newspapers and two online news sources was analyzed. The three main research questions were: How are the storms referred to?, What conceptual metaphors are used when discussing the storms? and Do the four sources differ from one another in the use of referring expressions and conceptual metaphors? As I began the research, I did not have an actual hypothesis, but some personal expectations how the results would turn out.

Judging by the results, the reference to the hurricanes was most often done by using various nouns (42.5 per cent of the instances). Usually more general nouns, such as *storm* or *hurricane* were used and sometimes more innovative ones, such as *monster* were found, but these types of instances were not extremely frequent. In addition to nouns, proper nouns, such as *Hurricane Irene* or *Irene* were used relatively frequently with 33.8 per cent of the cases. The pronoun reference (*it*, *she*, *he*) was expected to be more frequent, since it is common in anaphora and in a journalistic style as well, where condensing of information is a convention. Pronouns were used 22.6 per cent of cases of altogether 1060 referring expressions found. In most cases the first mention of the storm in a news article was the official the NHC's name for the storm, *Hurricane Irene* or *Hurricane Ike*. However, Hurricane Katrina seemed to differ from the other two hurricanes in this respect, since more often than not a noun, such as *hurricane* or *storm* or proper noun *Katrina* was used in the first mention that occurred usually in the headline. It was concluded that this might result from the fact that Hurricane Katrina was indeed the most known and the most destructive storm of the three and therefore there would not be need to introduce the hurricane in the same way as in the case of the other two storms. Interestingly enough, in the use of conceptual metaphors the intensity of the storm did not seem to have an effect.

In the analysis, the following five conceptual metaphors emerged: THE STORM IS A PERSON,

THE STORM IS AN ANGRY PERSON, THE STORM IS AN ANIMAL, THE STORM IS AN ENEMY FORCE and THE STORM IS A VEHICLE. Of these five conceptual metaphors, the ones that had animate entities as their sources were clearly more frequent than the ones that had inanimate sources. Overall, most common was the ANGRY PERSON metaphor, which might be expected because of the common ground between an angry person and a storm: they can cause destruction and damage to people and property. The damage caused is without a doubt an important piece of news and this is probably why expressions relating to the damage and violence got a fair amount of news coverage. The storms were not only violent as they *struck* and *hit* the land, but also *battered*, *pummeled* and *delivered blows*. In addition to the common ground between the storms and humans, the high frequency of THE PERSON metaphor might be explainable by the fact that we as humans are most familiar with human attributes, and therefore ascribing human characteristics to the storm in order to understand and perceive it better may seem only natural.

When it comes to the differences in discussing the storms between the four sources, the referring expressions seemed to be used relatively similarly between the British and American sources on the one hand and between the newspaper news and online news on the other hand. In fact, the figures indicating the frequencies of each referring expression type used in a certain source were surprisingly similar between the CNN and *The Independent*. Nevertheless, there was one source that stood out in the use of proper nouns, *The New York Times*, for there were only few instances of *Irene*, *Ike* and *Katrina* to be found, even though these types of referring expressions were frequent in the other sources. It was concluded that possibly the authors of the news articles did not want to use the proper noun reference for one reason or another – perhaps in order to avoid sounding too familiar or close with the storm. The analysis showed that there were even less differences between the sources when it comes to the use of different types of conceptual metaphors. These results suggest that at least in the case of the four sources and the three storms studied, it seems that the ways of using the conceptual metaphors are more or less conventionalized.

In addition to the already mentioned focuses of interest, I was also interested in finding out whether the three storms are referred to by using the gendered pronoun. Works dealing with the subject of gendered pronoun noted that storms are frequently personified and the female pronoun *she* is used (see e.g. Wales 1996). No mention of previous results on how the storms with men's names are referred to could be found. The results of this study suggest that they are not referred to by using the gendered pronoun *he* or even *she*, for that matter. However, this cannot be said with certainty since the number of articles covering Hurricane Ike was only 16. When it comes to shedding light on the conceptual metaphors used for hurricanes, no previous mentions of either the VEHICLE or THE ENEMY FORCE metaphors could be found in works of cognitive linguistics. The results of this study nevertheless show that they are in fact used, albeit not as frequently as the PERSON and ANIMAL metaphors.

When it comes to real life applications to what the results of this study might have, as was noted in Section 9.1, the conceptual metaphors conveyed mostly a negative perception of the three storms especially in the form of vocabulary relating to violence. However, because the conceptual metaphors are so embedded in us, these negative shades might be left unnoticed as we read the news. Therefore, it could be argued that if we became more aware of the conceptual metaphors in our every-day lives, we could become more aware of the underlying opinions of the authors and reporters writing not only the hurricane related news, but also for instance of political speeches.

To conclude, it might be worthwhile pondering the possibilities for future research. Since it appears that the referring expressions and conceptual metaphors have not been studied from this point of view earlier, the results can offer a basis for further research. Firstly, the differences in the referring expressions between the "male" and "female" hurricanes might be of interest in feminist studies. Secondly, during the analysis it was noticed that the gendered pronouns in fact appeared in specific types of constructions in 2 out of 5 instances. The two phrases were: *make one's way* and *continue one's journey*. It could be studied whether these were purely coincidental

occurrences or whether these types of expressions in fact have an effect on the frequency of the use of gendered pronouns. Thirdly, it is always intriguing to study how linguistic phenomena change over a period of time and in this case too, a diachronic study could be conducted and news reports on hurricanes that were named for instance after political figures or after saint's names could be studied. This would give some insight on not only how the referring techniques and sources for conceptual metaphors have changed, but also on how people perceive and describe the storms, that is to say rather abstract entities in different time periods. I would imagine that before the age of technology, the storms were seen as even more abstract entities since they did not appear on the radar images as they do nowadays and could not be predicted the ways it is currently possible. Lastly, the results of this study could be tested by conducting another similar study but choosing different storms and perhaps different sources as well, including storms of milder intensities and more hurricanes that have men's names. When it comes to the method choices for future study, a corpus method would probably provide comprehensive results. Furthermore, it would be interesting to study the language used in the NHC's public advisories to see whether they refer to the storms differently and whether different types of conceptual metaphors are used. After all, on the one hand the people working in the NHC certainly are familiar with the storms, but on the other hand, the public advisories are targeted to the public and that is why they need to be understandable for someone who is not a specialist in the matter.

The three hurricanes studied seem to be discussed by using a relatively large amount of expressions relating to humans. Furthermore, the use of gendered pronouns and proper nouns highlight the personification. These results were interesting enough, but what made the storms truly intriguing subjects to study, was the fact that at the same time, they were seen as lifeless entities, such as vehicles or enemies in a war.

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Appendix

Appendix 1: Table 2 Raw numbers of the referring expressions

Word	The New York T.	The Independent	CNN	BBC	All sources
Hurricane Irene	11	6	7	9	33
Irene	2	29	42	22	95
storm	39	18	30	23	110
hurricane	25	10	6	13	54
it/its/itself	24	13	31	20	88
she/her	-	1	2	-	3
this	2	1	4	1	8
other nouns	4	1	2	1	8
Total	107	79	124	89	399

Word	The New York T.	The Independent	CNN	BBC	All sources
Hurricane Ike	19	6	9	5	39
Ike	2	31	39	21	93
storm	31	12	22	20	85
hurricane	7	2	8	5	22
it/its/itself	23	27	13	11	74
he/his	-	-	-	-	-
this	-	1	1	-	2
other nouns	1	2	5	4	12
Total	83	81	97	66	327

Word	The New York T.	The Independent	CNN	BBC	All sources
Hurricane Katrina	19	5	15	4	43
Katrina	-	22	20	13	55
storm	33	20	27	13	93
hurricane	14	13	10	12	49
it/its/itself	31	19	12	11	73
she/her	-	1	-	1	2
this	-	1	1	-	2
other nouns	6	5	3	3	17
Total	103	86	88	57	334

Appendix 2A: Referring expressions according to source

Word	The New York T.	The Independent	CNN	BBC	All sources
Hurricane Irene Ike and Katrina	49	17	31	18	115
Irene Ike Katrina	4	82	101	56	243
storm	103	50	79	56	288
hurricane	46	25	24	30	125
it/its/itself	78	59	56	42	235
she/her/he/his	1	1	2	1	5
this	2	3	6	1	12
other nouns	11	8	10	8	37
Total	294	245	309	212	1060

Appendix 2B: Referring expressions according to source: percentages

Word	The New York T.	The Independent	CNN	BBC	All sources average
Hurricane Irene Ike and Katrina	16.7	6.9	10.0	8.5	10.5
Irene Ike Katrina	1.4	33.5	32.7	26.4	23.5
storm	35.0	20.4	25.6	26.4	26.9
hurricane	15.6	10.2	7.8	14.2	12.0
it/its/itself	26.5	24.1	18.1	19.8	22.1
she/her/he/his	0.3	0.4	0.6	0.5	0.5
this	0.7	1.2	1.9	0.5	1.1
other nouns	3.7	3.3	3.2	3.8	3.5
Total	99.9	100	99.9	100.1	

Appendix 3: categorization of the metaphorical expressions

THE STORM IS A PERSON
Actions associated with humans
Moving in a human way
Travelling
Cognitive attributes and personality (other than anger)

THE STORM IS AN ANGRY PERSON
Anger
Actions of an angry person
Acts of violence

THE STORM IS AN ANIMAL
Actions and noises of animals
Movement
Strength

THE STORM IS AN ENEMY FORCE
Actions of an enemy force and events in war
Defense

THE STORM IS A VEHICLE
Movement of a vehicle
Fuel

Appendix 4: A detailed version of Table 3

Metaphorical expression / vocabulary	The New York Times	The Independent	The CNN	The BBC
Human actions	5	2	8	1
Human movement	2	3	1	-
Travelling	1	2	1	-
Cognitive attributes/ Personality	7	5	2	5
THE STORM IS A PERSON	15	12	12	16
Anger	4	7	3	3
Actions of an angry person	7	5	11	2
Acts of violence and victims of the angry person	22	15	16	19
THE STORM IS AN ANGRY PERSON	33	27	30	24
Animal noises and actions	5	3	-	1
Animal movement	1	-	1	-
Dangerous	1	3	0	2
Strength	23	30	20	19
THE STORM IS AN ANIMAL	30	36	21	22
Actions and events relating to war	1	4	5	2
Defense	1	2	2	2
THE STORM IS AN ENEMY FORCE	2	6	7	4
Movement of a vehicle	6	2	2	6
Fuel	2	1	0	0
THE STORM IS A VEHICLE	8	3	2	6
Total	88	84	72	62

Appendix 5A: Metaphor expressions according to storm

Expression	Irene	Ike	Katrina
Human actions	5	9	2
Human movement	1	2	3
Travelling	4	-	-
Cog. attributes/pers.	12	2	5
THE STORM IS A PERSON	22	13	10
Anger	8	6	3
Actions of an angry person	11	9	5
Acts of violence, victims	23	17	32
THE STORM IS AN ANGRY PERSON	42	32	40
Animal noises, actions	3	2	4
Animal movement	1	-	1
Dangerous	2	3	1
Strength	34	27	31
THE STORM IS AN ANIMAL	40	32	40
Actions and events relating to war	8	-	4
Defense	1	2	4
THE STORM IS AN ENEMY FORCE	9	2	8
Movement of a vehicle	4	10	2
Fuel	-	3	-
THE STORM IS A VEHICLE	4	13	2
Total	117	92	97

Appendix 5B: Frequencies of the conceptual metaphors according to storm

Conceptual Metaphor (Source Domain)	Irene	Ike	Katrina
A PERSON	22	13	10
AN ANGRY PERS	42	32	40
AN ANIMAL	40	32	37
AN ENEMY FORCE	9	2	8
A VEHICLE	4	13	2
Total	117	92	97

Appendix 5C: Percentages of the conceptual metaphors according to storm

Conceptual Metaphor (Source Domain)	Irene	Ike	Katrina
A PERSON	18.8	14.1	10.3
AN ANGRY PERS	35.9	34.8	41.2
AN ANIMAL	34.2	34.8	38.1
AN ENEMY FORCE	7.7	2.2	8.2
A VEHICLE	3.4	14.1	2.1
Total	100	100	99.9